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     FILE 'REGISTRY' ENTERED AT 15:03:41 ON 27 DEC 2002
L6             1 S DEQUEST 2060/CN
L7             1 S DEQUEST 2010/CN

     FILE 'STNGUIDE' ENTERED AT 15:05:05 ON 27 DEC 2002

     FILE 'CAPLUS' ENTERED AT 15:07:04 ON 27 DEC 2002
                S (HYDROGEN PEROXIDE OR SODIUM PERBORATE OR SODIUM PEROXIDE OR

     FILE 'REGISTRY' ENTERED AT 15:08:22 ON 27 DEC 2002
L8             4 S (HYDROGEN PEROXIDE OR SODIUM PERBORATE OR SODIUM PEROXIDE OR

     FILE 'CAPLUS' ENTERED AT 15:08:22 ON 27 DEC 2002
L9         69710 S L8

     FILE 'REGISTRY' ENTERED AT 15:08:33 ON 27 DEC 2002
L10            4 S (HYDROGEN PEROXIDE OR SODIUM PERBORATE OR SODIUM PEROXIDE OR
L11            1 S UREA PEROXIDE
L12           20 S HYDROGEN PEROXIDE AND UREA
L13            8 S L10 OR 124-43-6 OR 14479-85-7 OR 100678-45-3 OR 113289-85-3

     FILE 'CAPLUS' ENTERED AT 15:13:13 ON 27 DEC 2002
L14            1 S L13 (L) L6
L15            1 S L13 (L) L7

     FILE 'REGISTRY' ENTERED AT 15:15:48 ON 27 DEC 2002
L16            1 S 51888-66-5/RN
                 SET NOTICE 1 DISPLAY
                 SET NOTICE LOGIN DISPLAY

     FILE 'STNGUIDE' ENTERED AT 15:17:44 ON 27 DEC 2002

=> d que l8; d que l13
L8             4 SEA FILE=REGISTRY (HYDROGEN PEROXIDE OR SODIUM PERBORATE OR
                 SODIUM PEROXIDE OR UREA PEROXIDE)/CN



L10            4 SEA FILE=REGISTRY (HYDROGEN PEROXIDE OR SODIUM PERBORATE OR
                 SODIUM PEROXIDE OR UREA PEROXIDE)/CN
L13            8 SEA FILE=REGISTRY L10 OR 124-43-6 OR 14479-85-7 OR 100678-45-3
                 OR 113289-85-3


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L14 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
AN 1974:16372 CAPLUS
DN 80:16372
TI Bleaching of cotton textiles
PA Benckiser-Knapsack G.m.b.H.
SO Ger. Offen., 13 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2211578	A1	19730913	DE 1972-2211578	19720310
	DE 2211578	B2	19750522		
	DE 2211578	C3	19800410		
	IT 973308	A	19740610	IT 1972-34003	19721229
	ES 411119	A1	19751201	ES 1973-411119	19730130
	BE 795085	A1	19730529	BE 1973-127353	19730207
	JP 49000577	A2	19740107	JP 1973-25250	19730305
	US 3860391	A	19750114	US 1973-338863	19730307
	CH 733341	A4	19750415	CH 1973-3341	19730307
	CH 567606	B	19751015		
	NL 7303286	A	19730912	NL 1973-3286	19730308
	NL 170653	B	19820701		
	NL 170653	C	19821201		
	CA 995410	A1	19760824	CA 1973-165765	19730309
	AT 348480	B	19790226	AT 1973-2092	19730309
	FR 2175922	A1	19731026	FR 1973-8716	19730312
PRAI	DE 1972-2211578		19720310		

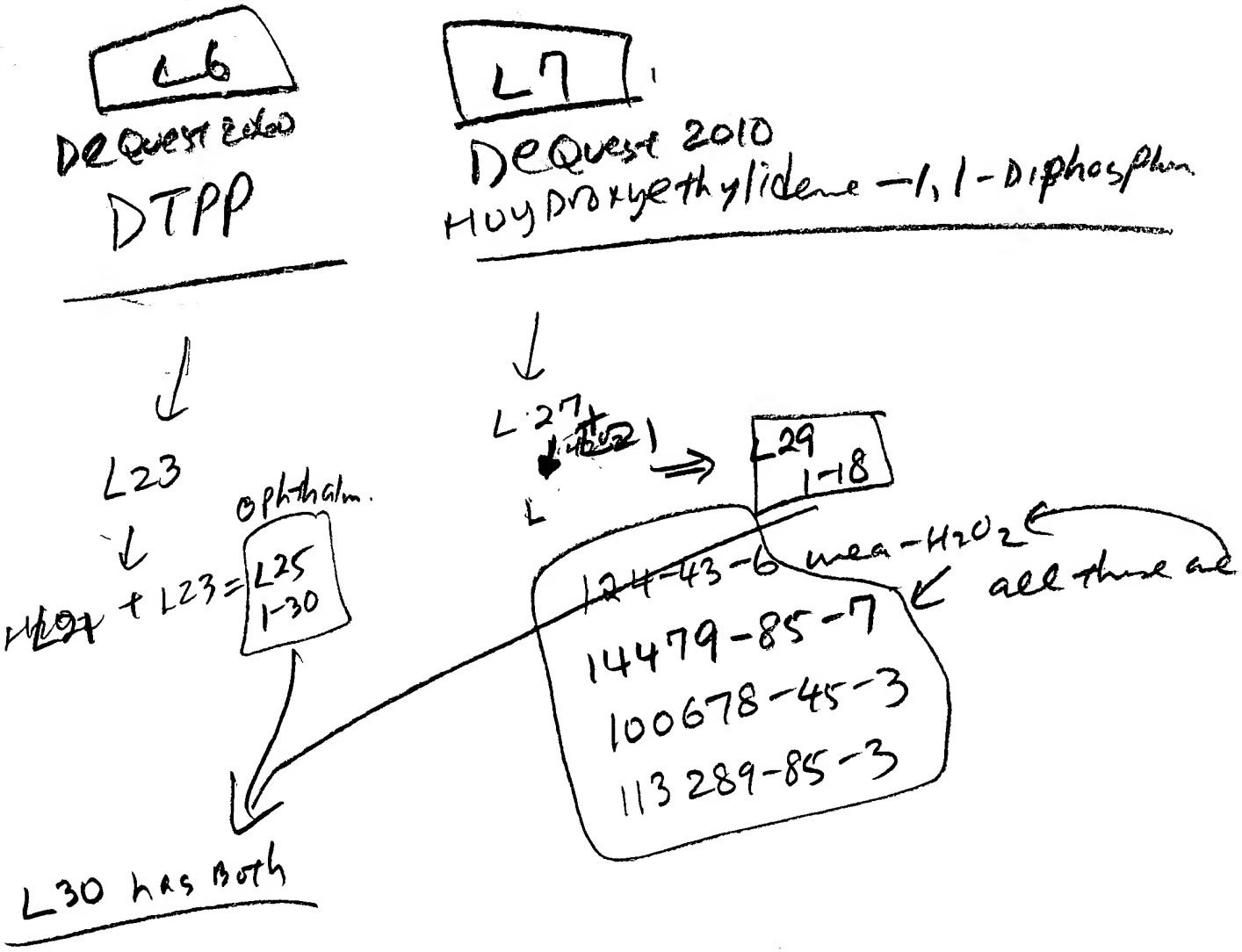
AB Cotton textiles were bleached to high degree of whiteness, low ash content, and the same decrease in d.p. as with silicate-contg. bleaching baths by treatment with silicate-free peroxide baths contg. polyphosphonic acid derivs., e.g. diethylenetriaminepentakis(methylenephosphonic acid) (I) [**15827-60-8**], and optionally polyhydroxy compds., e.g. sorbitol (II) [50-70-4] as stabilizers. Thus, kier-boiled cotton fabric (degree of whiteness 60.7, d.p. 1980) was treated 60 sec at 140.deg. with a bleaching bath contg. 1.5 g/l. NaOH, 2.0 g/l. wetting agent, 0.6 g/l. I, 5.4 g/l. II, 1.2 g/l. diethylenetriaminepentaacetic acid, and 35 ml/l. 35% hydrogen peroxide [**7722-84-1**] to give degree of whiteness 86.4 and d.p. 1600.

=>

L15 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
AN 1974:479689 CAPLUS
DN 81:79689
TI Stable bleaching agents
IN Stalter, Neil J.
PA du Pont de Nemours, E. I., and Co.
SO Ger. Offen., 11 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2333201	A1	19740124	DE 1973-2333201	19730629
	US 3811833	A	19740521	US 1972-268051	19720630
	CA 1003605	A1	19770118	CA 1973-173982	19730613
	IT 990818	A	19750710	IT 1973-26029	19730628
	BE 801681	A1	19731015	BE 1973-132921	19730629
	FR 2190912	A1	19740201	FR 1973-23905	19730629
	JP 49052784	A2	19740522	JP 1973-73343	19730630
	GB 1419184	A	19751224	GB 1973-31493	19730702
PRAI	US 1972-268051		19720630		

AB Stable aq. bleaching compns. of pH .sim.0.5-7.0 and used for bleaching detergent (Tide)-contg. laundry baths contained hydrogen peroxide [**7722-84-1**], Na stannate (I) [12773-27-2], ammonium sulfate (II) [7783-20-2], and Dequest 2010 (III, contg. alkylidenediphosphonic acid) [**51888-66-5**]. Thus, an aq. bleaching compn. of pH 2.0 (adjusted with HNO3) contained H2O2 35, III 0.1, I 0.01, and II 30% and lost 1.8% of active O on heating .sim.15 hr at 100.deg..



L21 - Uspatfull H_2O_2 & other compounds.

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     FILE 'STNGUIDE' ENTERED AT 15:17:44 ON 27 DEC 2002
L17           0 S L13 (L) (L6 OR L7)

     FILE 'CAPLUS' ENTERED AT 15:34:40 ON 27 DEC 2002
L18           2 S L13 (L) (L6 OR L7)
L19           0 S L18 NOT (L14 OR L15)

     FILE 'USPATFULL' ENTERED AT 15:36:39 ON 27 DEC 2002

     FILE 'REGISTRY' ENTERED AT 15:37:06 ON 27 DEC 2002
                SET SMARTSELECT ON
L20          SEL L13 1- CHEM :      79 TERMS
                SET SMARTSELECT OFF

     FILE 'USPATFULL' ENTERED AT 15:37:07 ON 27 DEC 2002
L21        66547 S L20/BI

     FILE 'REGISTRY' ENTERED AT 15:37:31 ON 27 DEC 2002
                SET SMARTSELECT ON
L22          SEL L6 1- CHEM :      23 TERMS
                SET SMARTSELECT OFF

     FILE 'USPATFULL' ENTERED AT 15:37:32 ON 27 DEC 2002
L23         1165 S L22/BI
L24          320 S L21 (250A) L23
L25           30 S L24 AND (CONTACT LENS? OR OPHTHALM? OR SALINE SOLUTION OR EYE

     FILE 'REGISTRY' ENTERED AT 15:39:46 ON 27 DEC 2002
                SET SMARTSELECT ON
L26          SEL L7 1- CHEM :      59 TERMS
                SET SMARTSELECT OFF

     FILE 'USPATFULL' ENTERED AT 15:39:46 ON 27 DEC 2002
L27         4119 S L26/BI
L28          346 S L21 (250A) L27
L29           18 S L28 AND (CONTACT LENS? OR OPHTHALM? OR SALINE SOLUTION OR EYE
L30            4 S L29 AND L25
L31           26 S L25 NOT L30
L32           14 S L29 NOT L30

=> d que l25; d que l29
L6             1 SEA FILE=REGISTRY DEQUEST 2060/CN
L10            4 SEA FILE=REGISTRY (HYDROGEN PEROXIDE OR SODIUM PERBORATE OR
                 SODIUM PEROXIDE OR UREA PEROXIDE)/CN
L13            8 SEA FILE=REGISTRY L10 OR 124-43-6 OR 14479-85-7 OR 100678-45-3
                 OR 113289-85-3
L20              SEL  L13 1- CHEM :      79 TERMS
L21        66547 SEA FILE=USPATFULL L20/BI
L22              SEL  L6 1- CHEM :      23 TERMS
L23         1165 SEA FILE=USPATFULL L22/BI
L24          320 SEA FILE=USPATFULL L21 (250A) L23
L25           30 SEA FILE=USPATFULL L24 AND (CONTACT LENS? OR OPHTHALM? OR
                 SALINE SOLUTION OR EYECARE OR EYE CARE)



L7             1 SEA FILE=REGISTRY DEQUEST 2010/CN
L10            4 SEA FILE=REGISTRY (HYDROGEN PEROXIDE OR SODIUM PERBORATE OR
                 SODIUM PEROXIDE OR UREA PEROXIDE)/CN
L13            8 SEA FILE=REGISTRY L10 OR 124-43-6 OR 14479-85-7 OR 100678-45-3
                 OR 113289-85-3
L20              SEL  L13 1- CHEM :      79 TERMS
L21        66547 SEA FILE=USPATFULL L20/BI
L26              SEL  L7 1- CHEM :      59 TERMS
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L27         4119 SEA FILE=USPATFULL L26/BI
L28          346 SEA FILE=USPATFULL L21 (250A) L27
L29           18 SEA FILE=USPATFULL L28 AND (CONTACT LENS? OR OPHTHALM? OR
                 SALINE SOLUTION OR EYECARE OR EYE CARE)


=>
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=> d l30 1-4 bib kwic

L30 ANSWER 1 OF 4 USPATFULL
AN 2002:217220 USPATFULL
TI Enzymatic cleaning compositions
IN Bettiol, Jean-Luc Philippe, Brussels, BELGIUM
Joos, Conny Erna-Alice, Buggenhout, BELGIUM
PA Procter & Gamble Company, Cincinnati, OH, United States (U.S. corporation)
PI US 6440911 B1 20020827
WO 9909126 19990225
AI US 2000-485649 20000317 (9)
WO 1998-US11993 19980610
20000317 PCT 371 date
PRAI EP 1997-870120 19970814
DT Utility
FS GRANTED
EXNAM Primary Examiner: Delcotto, Gregory
LREP Cook, C. Brant, Zerby, K. W., Miller, Steve W.
CLMN Number of Claims: 14
ECL Exemplary Claim: 1
DRWN 0 Drawing Figure(s); 0 Drawing Page(s)
LN.CNT 3753
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
DETD . . . of
between about 4,500-8,000.
480N Random copolymer of 73 acrylate/methacrylate,
average molecular weight about 3,500.
Polygel/carbopol High molecular weight crosslinked polyacrylates.
PB1 Anhydrous **sodium perborate** monohydrate of nominal
formula NaBO.sub.2.H.sub.2O.sub.2.
PB4 **Sodium perborate** tetrahydrate of nominal formula
NaBO.sub.2.3H.sub.2O.H.sub.2O.sub.2.
Percarbonate Anhydrous sodium percarbonate of nominal formula
2Na.sub.2CO.sub.3.3H.sub.2O.sub.2.
NaDCC Sodium dichloroisocyanurate.
TAED Tetraacetylethylenediamine.
NOBS Nonanoyloxybenzene sulfonate in the form of the
sodium salt.
NACA-OBS (6-nonamidocaproyl) oxybenzene sulfonate.
DTPA Diethylene triamine pentaacetic acid.
HEDP 1,1-hydroxyethane diphosphonic acid.
DETPMP Diethyltriamine penta (methylene) phosphonate,
marketed by Monsanto under the Trade name **Dequest 2060**.
EDDS Ethylenediamine-N,N'-disuccinic acid, (S,S) isomer
in the form of its sodium salt
MnTACN Manganese 1,4,7-trimethyl-1,4,7-triazacyclononane.
Photoactivated Sulfonated zinc phtalocyanine encapsulated in dextrin
Bleach soluble. . .
CLM What is claimed is:
14. A method of cleaning a **contact lense** with a
cleaning composition comprising contacting said **contact lens** with a cleaning composition according to claim 1.

L30 ANSWER 2 OF 4 USPATFULL
AN 1999:12580 USPATFULL
TI Methods and composition for preserving media in the tip of a solution dispenser
IN Tsao, Fu-Pao, Lawrenceville, GA, United States
Martin, Stephen Merritt, Roswell, GA, United States
Shlevin, Harold, Marietta, GA, United States

Rowe, Thomas Edward, Roswell, GA, United States
PA CIBA Vision Corporation, Duluth, GA, United States (U.S. corporation)
PI US 5863562 19990126
AI US 1996-626198 19960329 (8)
RLI Division of Ser. No. US 1995-449476, filed on 30 May 1995, now patented, Pat. No. US 5611464
DT Utility
FS Granted
EXNAM Primary Examiner: Fay, Zohreh
LREP Lee, Michael U., Meece, R. Scott
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN 2 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 584
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB . . . to inhibit microbial growth in the tip media. The dispensing container is especially useful in delivering to the ocular environment **ophthalmic** solutions which are essentially free of strong preservative which may cause patient discomfort. A dispensing container including a pH-preserved pilocarpine. . .

SUMM . . . essentially free of microbial growth and to methods of preserving such containers and solutions. More particularly, the invention relates to **ophthalmic** dispensers and preserved **ophthalmic** solutions.

SUMM Various **contact lens** care solutions for improving consumer comfort and safety are currently being marketed. Examples include wetting solutions to enhance the lens. . . cleaning solutions which remove lipids, proteins, or other biological matter attached to the lens surface. In addition, there are numerous **ophthalmic** solutions designed to reduce ocular discomfort, treat ocular illnesses, or enhance ocular wound healing (e.g., subsequent to surgery). Many of these lens care solutions and **ophthalmic** treatment solutions, both referred to herein as **ophthalmic** solutions, are provided to the consumer in plastic containers or aerosol cans having a nozzle or tip through which the. . .

SUMM Many **ophthalmic** solutions are dispensed directly into the eye of the consumer, and the tip of the dispenser may contact ocular tissue or fluids. Thus, microbes or ocular pathogens may contaminate the **ophthalmic** dispenser, and over extended storage times, may increase to concentrations which may threaten the consumer's health or comfort when the **ophthalmic** solution is introduced into the eye. Solution contamination may also occur by merely exposing the solution to the surrounding air, which exposure may occur when a consumer dispenses the solution. Accordingly, **ophthalmic** solutions typically include a preservative or antimicrobial, such as polymyxin B sulfate, quaternary ammonium compounds, chlorobutanol, organic mercurials, p-hydroxybenzoic acid. . .

SUMM The use of such preservatives in **ophthalmic** solutions is problematic because the preservatives may cause irritation when they contact ocular tissues. For example, benzalkonium chloride (BAK) is known to be a useful **ophthalmic** preservative, and has broad antibacterial and antifungal activity in combination with other additives, such as disodium ethylene diaminetetraacetic acid (EDTA).. . .

SUMM . . . Nos. 5,056,689 and 5,080,800, both issued on application of Heyl, et al., disclose a remarkably innovative solution to the aforementioned **ophthalmic** preservative problem. These patents teach the use of a "scavenger" material in the tip of the **ophthalmic** dispenser. As the solution is dispensed through the scavenger-containing tip, the preservative is removed from the solution. Depending on the. . . preservative-free, thereby avoiding or minimizing any of the previously described problems associated with the preservative's contacting ocular tissue. Advantageously, the **ophthalmic** solution within the container remains microbe-free,

because preservative within the solution inhibits microbial growth.

SUMM . . . al. invention is that the scavenger media itself may not be sufficiently preserved. While preservative inhibits microbial growth in the **ophthalmic** solution within the container, the preservative has been removed from the scavenger media and any **ophthalmic** solution remaining on the scavenger media. Thus, microbes contaminating the tip media may be allowed to propagate, thereby increasing concentrations. . .

SUMM Hence, there is a need for a method of preserving scavenger media within the tip of an **ophthalmic** dispenser, without causing introduction of unacceptable levels of preservative into the eye during dispensing. Analogously, there is a need for an **ophthalmic** dispenser having a scavenger tip which is itself preserved.

SUMM Yet another embodiment of the invention is a preserved **ophthalmic** composition including at least one active agent, 0.0004 to 0.1 weight per cent weak preservative, and 0.00005 to 0.2 weight. . .

DETD . . . chemical reaction (e.g., pH modification), ion exchange, adsorption, absorption, and the like. While the invention has particular utility in the **ophthalmic** field, the invention has utility in the preservation of a wide variety of treatment (e.g., medicinal) solutions.

DETD The strong preservative may be selected (1) to both inhibit microbial growth and kill microorganisms which inadvertently contaminate the **ophthalmic** solution upon exposure to the surroundings or (2) to inhibit the degradation or deactivation of the active agent. The strong. . .

DETD . . . 77, ONAMER M, MIRAPOL A15, IONENES A, POLYQUATERNIUM 11, POLYQUATERNIUM 7, BRADOSOL, AND POLYQUAT D-17-1742. A preferred preservative for the **ophthalmic** field is benzalkonium chloride.

DETD In dispensing systems which include a peroxide or peroxide-generating species such as **sodium perborate**, the solution preferably includes a component which inhibits peroxide decomposition, i.e., a peroxide stabilizer. A wide variety of **ophthalmically** -compatible peroxide stabilizers may be used, including sodium stannate. Other highly useful peroxide stabilizers include hydroxyethylidene diphosphonic acid (e.g., **DEQUEST 2010**) with glycerol and diethylene triamine penta(methylenephosphonic acid) (e.g., **DEQUEST 2060**), as disclosed more fully in U.S. Pat. Nos. 4,812,173 and 4,889,689, respectively, which are incorporated herein by reference.

DETD . . . with reference to the Figures. Referring to FIG. 1, a preserved device 10 for removing preservatives from solutions, such as **ophthalmic** solutions, is shown. Device 10 includes is container 12, preferably constructed of molded plastic, having resilient sidewalls 14 which define. . .

DETD . . . of the solution from 4.0 to 7.0. This is relevant since sorbic acid is commonly used as a preservative in **contact lens** care solutions. Also, sorbic acid is normally stored at a pH of 7.0, where it is not stable. At a. . .

DETD The pharmaceutic agents which may be **ophthalmically** delivered in accordance with the present invention are varied. The term "pharmaceutical agent", as used herein, refers broadly to a. . . desirable to deliver via a solution or suspension. "Pharmaceutical agents" include, but are not limited to, beneficial therapeutic drugs (especially **ophthalmic** agents), diagnostic agents, vitamins, nutrients, and the like. While a wide variety of pharmaceutical agents may be used in accordance. . .

DETD An **ophthalmic** test solution is prepared with the following composition:

DETD An **ophthalmic** solution is prepared as in Example I, except that 0.0136 weight percent sodium perborate is used, instead of the lesser. . .

DETD An **ophthalmic** solution is prepared as in. Example I, except that 0.0181 weight percent sodium perborate is used, instead of the lesser. . .

DETD An **ophthalmic** solution is prepared as in Example I, except that 0.0226 weight percent sodium perborate is used, instead of the lesser. . .

DETD An **ophthalmic** solution is prepared as in Example I, except that no sodium perborate is used. The tips do not pass the. . .

DETD . . . illustrate that peroxide or a peroxide-generating species may be used to preserve the scavenger media in medicinal dispensing containers, especially **ophthalmic** dispensing containers.

L30 ANSWER 3 OF 4 USPATFULL

AN 97:21912 USPATFULL

TI Container for preserving media in the tip of a solution dispenser

IN Tsao, Fu-Pao, Lawrenceville, GA, United States
Martin, Stephen M., Roswell, GA, United States
Shlevin, Harold, Marietta, GA, United States
Rowe, Thomas E., Roswell, GA, United States

PA CIBA Geigy Corporation, Tarrytown, NY, United States (U.S. corporation)

PI US 5611464 19970318

AI US 1995-449476 19950530 (8)

DT Utility

FS Granted

EXNAM Primary Examiner: Seidleck, James J.; Assistant Examiner: Cooney, Jr., John M.

LREP Roberts, Edward McC., Meece, R. Scott, Lee, Michael U.

CLMN Number of Claims: 13

ECL Exemplary Claim: 1

DRWN 2 Drawing Figure(s); 1 Drawing Page(s)

LN.CNT 533

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB . . . to inhibit microbial growth in the tip media. The dispensing container is especially useful in delivering to the ocular environment **ophthalmic** solutions which are essentially free of strong preservative which may cause patient discomfort. A dispensing container including a pH-preserved pilocarpine. . .

SUMM . . . essentially free of microbial growth and to methods of preserving such containers and solutions. More particularly, the invention relates to **ophthalmic** dispensers and preserved **ophthalmic** solutions.

SUMM Various **contact lens** care solutions for improving consumer comfort and safety are currently being marketed. Examples include wetting solutions to enhance the lens. . . cleaning solutions which remove lipids, proteins, or other biological matter attached to the lens surface. In addition, there are numerous **ophthalmic** solutions designed to reduce ocular discomfort, treat ocular illnesses, or enhance ocular wound healing (e.g., subsequent to surgery). Many of these lens care solutions and **ophthalmic** treatment solutions, both referred to herein as **ophthalmic** solutions, are provided to the consumer in plastic containers or aerosol cans having a nozzle or tip through which the. . .

SUMM Many **ophthalmic** solutions are dispensed directly into the eye of the consumer, and the tip of the dispenser may contact ocular tissue or fluids. Thus, microbes or ocular pathogens may contaminate the **ophthalmic** dispenser, and over extended storage times, may increase to concentrations which may threaten the consumer's health or comfort when the **ophthalmic** solution is introduced into the eye. Solution contamination may also occur by merely exposing the solution to the surrounding air, which exposure may occur when a consumer dispenses the solution. Accordingly, **ophthalmic** solutions typically include a preservative or antimicrobial, such as polymyxin B sulfate, quaternary ammonium compounds, chlorobutanol, organic mercurials, p-hydroxybenzoic acid. . .

SUMM The use of such preservatives in **ophthalmic** solutions is problematic because the preservatives may cause irritation when they contact ocular tissues. For example, benzalkonium chloride (BAK) is known to be a useful **ophthalmic** preservative, and has broad antibacterial and antifungal activity in combination with other additives, such as disodium ethylene diaminetetraacetic acid (EDTA).. . .

SUMM . . . Nos. 5,056,689 and 5,080,800, both issued on application of Heyl, et al., disclose a remarkably innovative solution to the aforementioned **ophthalmic** preservative problem. These patents teach the use of a "scavenger" material in the tip of the **ophthalmic** dispenser. As the solution is dispensed through the scavenger-containing tip, the preservative is removed from the solution. Depending on the. . . preservative-free, thereby avoiding or minimizing any of the previously described problems associated with the preservative's contacting ocular tissue. Advantageously, the **ophthalmic** solution within the container remains microbe-free, because preservative within the solution inhibits microbial growth.

SUMM . . . al. invention is that the scavenger media itself may not be sufficiently preserved. While preservative inhibits microbial growth in the **ophthalmic** solution within the container, the preservative has been removed from the scavenger media and any **ophthalmic** solution remaining on the scavenger media. Thus, microbes contaminating the tip media may be allowed to propagate, thereby increasing concentrations. . .

SUMM Hence, there is a need for a method of preserving scavenger media within the tip of an **ophthalmic** dispenser, without causing introduction of unacceptable levels of preservative into the eye during dispensing. Analogously, there is a need for an **ophthalmic** dispenser having a scavenger tip which is itself preserved.

SUMM Yet another embodiment of the invention is a preserved **ophthalmic** composition including at least one active agent, 0.0004 to 0.1 weight percent weak preservative, and 0.00005 to 0.2 weight percent. . .

DETD . . . chemical reaction (e.g., pH modification), ion exchange, adsorption, absorption, and the like. While the invention has particular utility in the **ophthalmic** field, the invention has utility in the preservation of a wide variety of treatment (e.g., medicinal) solutions.

DETD The strong preservative may be selected (1) to both inhibit microbial growth and kill microorganisms which inadvertently contaminate the **ophthalmic** solution upon exposure to the surroundings or (2) to inhibit the degradation or deactivation of the active agent. The strong. . .

DETD . . . 77, ONAMER M, MIRAPOL A15, IONENES A, POLYQUATERNIUM 11, POLYQUATERNIUM 7, BRADOSOL, AND POLYQUAT D-17-1742. A preferred preservative for the **ophthalmic** field is benzalkonium chloride.

DETD In dispensing systems which include a peroxide or peroxide-generating species such as **sodium perborate**, the solution preferably includes a component which inhibits peroxide decomposition, i.e., a peroxide stabilizer. A wide variety of **ophthalmically** -compatible peroxide stabilizers may be used, including sodium stannate. Other highly useful peroxide stabilizers include hydroxyethylidene diphosphonic acid (e.g., **DEQUEST 2010**) with glycerol and diethylene triamine penta(methylenephosphonic acid) (e.g., **DEQUEST 2060**), as disclosed more fully in U.S. Pat. Nos. 4,812,173 and 4,889,689, respectively, which are incorporated herein by reference.

DETD . . . with reference to the Figures. Referring to FIG. 1, a preserved device 10 for removing preservatives from solutions, such as **ophthalmic** solutions, is shown. Device 10 includes container 12, preferably constructed of molded plastic, having resilient sidewalls 14 which define a. . .

DETD . . . of the solution from 4.0 to 7.0. This is relevant since sorbic acid is commonly used as a preservative in **contact lens** care solutions. Also, sorbic acid is normally stored at a pH of 7.0, where it is not stable. At a. . .

DETD The pharmaceutic agents which may be **ophthalmically** delivered in accordance with the present invention are varied. The term "pharmaceutical agent", as used herein, refers broadly to a. . . desirable to deliver via a solution or suspension. "Pharmaceutical agents" include, but are not limited to, beneficial therapeutic drugs (especially **ophthalmic** agents), diagnostic agents, vitamins, nutrients, and the like. While a wide variety of pharmaceutical agents may be used in accordance. . .

DETD An **ophthalmic** test solution is prepared with the following composition:

DETD An **ophthalmic** solution is prepared as in Example I, except that 0.0136 weight percent sodium perborate is used, instead of the lesser. . .

DETD An **ophthalmic** solution is prepared as in Example I, except that 0.0181 weight percent sodium perborate is used, instead of the lesser. . .

DETD An **ophthalmic** solution is prepared as in Example I, except that 0.0226 weight percent sodium perborate is used, instead of the lesser. . .

DETD An **ophthalmic** solution is prepared as in Example I, except that no sodium perborate is used. The tips do not pass the. . .

DETD . . . illustrate that peroxide or a peroxide-generating species may be used to preserve the scavenger media in medicinal dispensing containers, especially **ophthalmic** dispensing containers.

L30 ANSWER 4 OF 4 USPATFULL

AN 92:57421 USPATFULL

TI Stabilization of concentrated hydrogen peroxide solutions

IN Feasey, Neil D., Cheshire, England
Morris, Gareth W., Merseyside, England

PA Interox Chemicals Limited, London, England (non-U.S. corporation)

PI US 5130053 19920714

AI US 1990-553089 19900717 (7)

PRAI GB 1989-25376 19891109

DT Utility

FS Granted

EXNAM Primary Examiner: Kyle, Deborah L.; Assistant Examiner: Fee, Valerie D.

LREP Larson and Taylor

CLMN Number of Claims: 10

ECL Exemplary Claim: 1,10

DRWN No Drawings

LN.CNT 508

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM It will be understood that the instant invention is based upon the observation of decreased rate of decomposition of the **hydrogen peroxide** when it is brought into and maintained in contact with the invention stabiliser during extended storage periods and not upon. . . view of the strong oxidising conditions in the composition, it is possible that the invention stabiliser may interact with the **hydrogen peroxide** in situ, with consequential change to the structure or form of the stabiliser. It would be expected that any such interaction would occur similarly to the way that the other aminophosphonic acid compounds like EDTMP or **DTPMP** might interact in such compositions, but self-evidently, any such change does not impair and may even enhance the ability of. . .

SUMM . . . as epoxidations and controlled organic oxidations often contain from 50 to 1000 ppm of the stabiliser, solutions intended for treating **contact lenses** typically contain the stabiliser in the region of 1000 ppm and solutions intended for the treatment of metals, such as. . .

DETD The test is carried out by dilution of unstabilised distilled 85% w/w **hydrogen peroxide** to 70% w/w with deionised water, introducing into the aqueous acidic solution the respective stabiliser compound to a concentration of. . . solution were then doped with a mixture of transition metal compounds known to be able to catalyse decomposition of the **hydrogen peroxide**, namely iron to a concentration of 3.45.times.10.sup.-3 g Fe.sup.3+ /liter and copper to a concentration of 7.85.times.10.sup.-4 g Cu.sup.2+ /liter.. . . rate of gassing in Example 1 was only 6.0.times.10.sup.31 3 ml/min compared with a mean gassing rate from the comparison **HEDP** of 23.2.times.10.sup.-3 mls/min under the same test conditions. This shows that the invention stabiliser was markedly more effective than **HEDP**. When the same weight of EDTMP (ethylene diamine tetramethylene phosphonate), a comparison stabiliser, was substituted for CDTMP in this test,. . .

DETD . . . this Example, diluted solutions of hydrogen peroxide (3% w/w), approx, in biologically pure water, i.e. suitable for use in sterilising **contact lenses**, were stabilised by introduction of CDTMP at a concentration of from 50 to 1000 ppm. Some of the CDTMP products. . .

=>

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=> s l25 not l30; s l29 not l30
L31         26 L25 NOT L30


L32         14 L29 NOT L30

=> d l31 1-26 bib kwic; d l32 1-14 bib kwic

L31  ANSWER 1 OF 26  USPATFULL
AN      2002:280517  USPATFULL
TI      Lens care product containing dexpanthenol
IN      Schwind, Peter, Hosbach-Rottenberg, GERMANY, FEDERAL REPUBLIC OF
        Scherer, Anton, Frammersbach, GERMANY, FEDERAL REPUBLIC OF
PI      US 2002155961       A1   20021024
AI      US 2002-44373       A1   20020111 (10)
PRAI    EP 2001-100764       20010112
        CH 2001-1035         20010607
DT      Utility
FS      APPLICATION
LREP    THOMAS HOXIE, NOVARTIS CORPORATION, PATENT AND TRADEMARK DEPT, 564
        MORRIS AVENUE, SUMMIT, NJ, 079011027
CLMN    Number of Claims: 16
ECL     Exemplary Claim: 1
DRWN    No Drawings
LN.CNT 385
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB      The present invention relates to contact lens care
        product comprising dexpanthenol. The invention similarly relates to the
        usage of a contact lens care compositions of this
        kind for cleaning and optionally disinfecting contact
        lenses.
SUMM    [0001] The present invention relates to a contact lens
        care product for hard and soft contact lenses,
        containing dexpanthenol or preferably dexpanthenol in combination with
        sorbitol.
SUMM    . . . skin care. It has now surprisingly been found that dexpanthenol
        can also be used very effectively as a constituent in contact
        lens care products. The compound has good cleansing action and,
        in addition, stabilises the lachrymal film when inserting the
        contact lenses. Vortex motion of the lachrymal liquid
        can occur through the insertion of contact lenses,
        namely because of mechanical eruption or through surface-active
        substances optionally present in the contact lens
        solution and can lead to severe loss of the aqueous lachrymal layer. It
        was found that dexpanthenol stabilises the lachrymal. . .
SUMM    [0003] The subject of the present invention is therefore a
        contact lens care composition containing dexpanthenol.
        The invention similarly relates to the use of dexpanthenol for cleaning
        and disinfecting contact lenses.
SUMM    [0004] Dexpanthenol is preferably used in the contact
        lens care compositions according to the invention in an amount
        of ca. 0.2 to 10 percent by weight, especially in an. . . by weight,
        most preferably in an amount of 1 to 3 percent by weight, based on the
        total amount of contact lens care compositions which
        is advantageously formulated in aqueous solution.
SUMM    [0005] Apart from dexpanthenol and water, the contact
        lens care compositions according to the invention generally
        contain one or more other constituents, e.g. buffer substances,
        substances that affect the. . . complexing agents and/or
        antimicrobial compounds. Although it is generally unnecessary, an
        enzymatic cleaning substance may also be present in the contact
        l ns care products according to the invention. The amounts of
        these or other conventional additives used in the contact
```

lens care compositions according to the invention are variable within the limits known to the person skilled in the art.

SUMM [0006] The **contact lens** care products according to the invention are preferably formulated in such a way that they are isotonic with the lachrymal. . .

SUMM . . . corresponds to the concentration of a 0.9% sodium chloride solution. Deviations from this concentration are possible throughout, provided that the **contact lenses** to be treated are not damaged. The isotonicity with the lachrymal fluid, or even another desired tonicity, may be adjusted. . .

SUMM . . . 20 percent by weight, especially in amounts of 0.4 to 5 percent by weight, based on the total amount of **contact lens** care composition.

SUMM . . . polyacrylic acid. Typical amounts of these substances are 0.1 to 2 percent by weight, based on the total amount of **contact lens** care composition.

SUMM . . . sodium salts. Typical amounts of these substances are 0.01 to 1 percent by weight, based on the total amount of **contact lens** care composition.

SUMM [0012] The antimicrobial agent is preferably used in the **contact lens** care composition according to the invention in an amount of 0.1 to 100 ppm (0.00001-0.01 percent by weight), especially in. . . of 1 to 10 ppm (0.0001-0.001 percent by weight), e.g. 1.2 or 5 ppm, based on the total amount of **contact lens** care composition.

SUMM . . . the context of the present invention, a suitable salt is generally understood to be a water-soluble salt which is advantageously **ophthalmologically** acceptable. Suitable salts are those with inorganic or organic acids, for example hydrochlorides, hydrobromides, borates, acetates, gluconates, sulfonates, maleates, ascorbates,. . .

SUMM [0014] Suitable buffer substances as a constituent of the **contact lens** care composition according to the invention are known to the person skilled in the art. Examples are boric acid, borates,. . .

SUMM [0016] One preferred embodiment of the present invention relates to a **contact lens** care compositions containing dexpanthenol and D-sorbit.

SUMM [0018] The addition of D-sorbit to adjust the tonicity of **contact lens** care products is known. GB 2,205,175 and U.S. Pat. No. 3,888,782 describe sorbit as a carrier material for the preparation of powder mixtures for **contact lens** care products. It has now surprisingly been found that the combination dexpanthenol and D-sorbit can be used effectively as a constituent in **contact lens** care compositions. The combination dexpanthenol and D-sorbit possesses a favourable cleansing action and also stabilises the lachrymal film after inserting the **contact lenses**, whereupon a heavy loss of the aqueous layer is prevented. This guards against the appearance of dryness, which can lead. . . a reduced lachrymal film. The usage of the active ingredient combination dexpanthenol and D-sorbit also substantially improves comfort when wearing **contact lenses**. Negative effects caused by surface-active substances and preservatives are reduced and the **contact lenses** are prevented from drying out.

SUMM . . . has surprisingly been found that the addition of sorbit substantially increases the microbiological efficacy of antimicrobial compounds present in the **contact lens** care compositions according to the invention, e.g. of PHMB, without resulting in negative effects as regards toxicity.

SUMM [0020] Dexpanthenol is preferably used in the preferred sorbit-containing **contact lens** care compositions according to the invention in the amount indicated above, whereby the said preferences apply.

SUMM [0021] D-sorbit is used in the preferred **contact lens**

care compositions according to the invention in an amount of about 0.4 to about 18 percent by weight, especially in. . . by weight, most preferably in an amount of 1 to 3 percent by weight, based on the total amount of **contact lens** care composition which is advantageously formulated in aqueous solution.

SUMM [0022] The preferred **contact lens** care compositions according to the invention advantageously contain, in addition to dexpanthenol, D-sorbit and water, one or more other constituents,. . . preferences given above apply. Although it is generally unnecessary, an enzymatic cleaning substance may also be present in the preferred **contact lens** care compositions according to the invention. The amounts in which these or other conventional additives are contained in the **contact lens** care compositions according to the invention, which contain dexpanthenol and D-sorbit, correspond to the amounts mentioned above, including the preferences. . .

SUMM [0023] The **contact lens** care compositions according to the invention are suitable for all kinds of **contact lenses**. This includes in particular the so-called hard and soft **contact lenses**, and also the so-called hard-flexible or highly gas-permeable **contact lenses**. The **contact lens** care compositions according to the invention have cleaning action and, in addition, optionally have antimicrobial action. Depending on the intended purpose of use, the **contact lens** care compositions according to the invention may be used as cleaning agents, as disinfectants, or e.g. as a solution in which to store, rinse, moisten or soak the **contact lenses**. Preferably, dexpanthenol or the combination of dexpanthenol and D-sorbit are respectively used in so-called all-in-one solutions, but may also be advantageously added to other **contact lens** care products, for example neutralisation solutions, hard lens care compositions, storing and disinfecting solutions. All these solutions are notable for. . .

SUMM [0024] The **contact lens** care compositions according to the invention are produced in known manner, in particular by means of conventional mixing of the. . .

SUMM [0025] The compositions according to the invention are especially suitable for cleaning and, where appropriate, for disinfecting **contact lenses**. The **contact lens** care compositions according to the invention are used in known manner, e.g. by bringing the **contact lens** into contact with the **contact lens** care composition for a period of time that is sufficient to clean or disinfect it. Depending on the lens type. . .

DETD [0034] Formulation for a **Contact Lens** Care Composition

DETD [0035] A **contact lens** care composition is produced by mixing together the following components:

dexpanthenol	10.0 g/l
EDTA	1.0 g/l
sodium chloride. . .	

DETD [0036] Formulation for a **Contact Lens** Care Composition

DETD [0037] A **contact lens** care composition is produced by mixing together the following components:

dexpanthenol	10.0 g/l
EDTA	1.0 g/l
sodium chloride. . .	

DETD [0038] Formulation for a **Contact Lens** Care Composition

DETD [0039] A **contact lens** care composition is produced by mixing together the following components:

dexpanthenol	10.0 g/l
EDTA	0.25 g/l
sodium chloride. . .	

DETD [0040] Formulation for a **Contact Lens** Care Composition

DETD [0041] A **contact lens** care composition is produced by mixing together the following components:

dexpanthenol	10.0 g/l
D-sorbit	18.0 g/l
EDTA	1.0. . .

DETD [0042] Formulation for a **Contact Lens** Care Composition

DETD [0043] A **contact lens** care composition is produced by mixing together the following components:

dexpanthenol	10.0 g/l
D-sorbit	18 g/l
EDTA	1.0. . .

DETD [0044] Formulation for a **Contact Lens** Care Composition

DETD [0045] A **contact lens** care composition is produced by mixing together the following components:

dexpanthenol	10.0 g/l
D-sorbit	18 g/l
EDTA	0.25. . .

DETD [0046] Formulation for a **Contact Lens** Care Composition

DETD [0047] A **contact lens** care composition is produced by mixing together the following components:

dexpanthenol	20.0 g/l
D-sorbit	18.8 g/l
EDTA	0.25. . .

DETD [0049] A **contact lens** care composition is produced by mixing together the following components:

dexpanthenol	20.0	g/l
D-sorbit	18.8	g/l
sodium borate	0.05	g/l
boric acid	5.0	g/l
hydroxyethyl cellulose	3.4	g/l
Pluronic 17R4	1.0	g/l
sodium perborate	0.28	g/l
stabiliser (**Dequest 2060** S)	0.12	g/l
aqua purificata	ad 1000	ml

CLM What is claimed is:

1. **Contact lens** care composition comprising dexpanthenol.

2. **Contact lens** care composition according to claim 1, comprising dexpanthenol and D-sorbit.

3. **Contact lens** care composition according to claim 1 or 2, comprising an aqueous solution comprising 0.5 to 4 percent by weight, preferably 1 to 3 percent by weight, of dexpanthenol, based on the total weight of the **contact lens** care composition.

4. **Contact lens** care composition according to claim 2 or 3, comprising 0.8 to 6 percent by weight, preferably 1 to 3 percent by weight, of D-sorbit, based on the total weight of the **contact lens** care composition.

5. **Contact lens** care composition according to one of claims 1 to 4, which comprises one or more further constituents selected from the. . .

6. **Contact lens** care composition according to claim 1, which comprises dexpanthenol, one or more buffer substances, PHMB, sodium chloride or potassium chloride. . .

7. **Contact lens** care composition according to claim 6, which contains

dexpanthenol	5 to 20	g/l
NaCl or KCl	3 to. . .	

8. **Contact lens** care composition according to one of claims 2 to 5, which comprises dexpanthenol, D-sorbit, one or more buffer substances, PHMB,. . .

9. **Contact lens** care composition according to claim 8, which comprises

dexpanthenol	5 to 20	g/l
D-sorbit	10 to 30	g/l

. . .

10. **Contact lens** care composition according to claim 7 or 9, which comprises, in addition, a surface-active substance.

11. Use of a **contact lens** care composition according to one of claims 1, 6 or 7, for cleaning and optionally disinfecting a **contact lens**.

12. Use of a **contact lens** care composition according to one of claims 2 to 5 or 8 to 10, for cleaning and optionally disinfecting a **contact lens**.

13. Use of dexpanthenol as a constituent of a **contact lens** care composition.

14. Use of a combination of dexpanthenol and D-sorbit as constituents of a **contact lens** care composition.

15. Method for cleaning and optionally disinfecting a **contact lens**, wherein a **contact lens** care composition according to one of claims 1, 6 or 7 is brought into contact with a **contact lens** for a period of time that is sufficient to clean and optionally disinfect it.

16. Method for cleaning and optionally disinfecting a **contact lens**, wherein a **contact lens** care composition according to one of claims 2 to 5 or 8 to 10 is brought into contact with a **contact lens** for a period of time that is sufficient to clean and optionally disinfect it.

L31 ANSWER 2 OF 26 USPATFULL
AN 2001:176611 USPATFULL
TI **Ophthalmic** compositions
IN Bowman, Lyle M., Pleasanton, CA, United States
Pfeiffer, James F., Oakland, CA, United States
Memarzadeh, Eric B., San Carlos, CA, United States
Roy, Samir, San Ramon, CA, United States
PI US 2001029269 A1 20011011
AI US 2001-863294 A1 20010524 (9)
RLI Continuation of Ser. No. US 1998-74419, filed on 8 May 1998, GRANTED, Pat. No. US 6265444 Continuation-in-part of Ser. No. US 1997-863015, filed on 23 May 1997, ABANDONED
DT Utility
FS APPLICATION
LREP ARNOLD & PORTER, 555 12TH STREET, N.W., WASHINGTON, DC, 20004
CLMN Number of Claims: 34
ECL Exemplary Claim: 1
DRWN 1 Drawing Page(s)
LN.CNT 935
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
TI **Ophthalmic** compositions
AB An **ophthalmic** composition containing a divalent salt and a non-steroidal anti-inflammatory agent as a precipitate. The composition reduces or eliminates the risk. . . system comprising a perborate salt, a polyphosphonic acid peroxy stabilizer and EDTA provides stable preservation of a variety of aqueous **ophthalmic** compositions.
SUMM [0003] The present invention relates to **ophthalmic** compositions and more particularly, to **ophthalmic** compositions containing a divalent cation and a non-steroidal anti-inflammatory agent and/or to **ophthalmic** compositions containing a preservative system.
SUMM [0005] Non-steroidal anti-inflammatory agents can be used in a variety of **ophthalmic** treatments such as for treating ocular tissue inflammation and its associated pain. Additional uses include (i) preventing particular side-effects from. . .
SUMM . . . Injection of anti-inflammatory agents in the form of a suspension has also been proposed. Suspensions have been used for topical **ophthalmic** applications when the drug is not very soluble. However, when the drug is soluble, at an acceptable pH, solutions are normally used to avoid potential irritation caused by the particles of the suspension. The following patents illustrate **ophthalmic** solutions containing non-steroidal anti-inflammatory agents, including diclofenac.
SUMM [0008] U.S. Pat. No. 4,829,088 to Doulakas also relates to an **ophthalmic** medicament containing diclofenac sodium in aqueous solution. The solution contains 2-amino-2-hydroxymethyl-1,3-propanediol as a preservative.
SUMM [0009] U.S. Pat. No. 5,110,493 to Cherng-Chyi et al. relates to **ophthalmic** non-steroidal anti-inflammatory drug formulations containing a quaternary ammonium preservative and a non-ionic surfactant.
SUMM . . . such a technique, there is still a segment of the population that will experience stinging when topically administering non-steroidal anti-inflammatory **ophthalmic** compositions. Accordingly, further improvements are desirable.
SUMM [0014] Additionally, preserving an **ophthalmic** composition that contains a non-steroidal anti-inflammatory agent can be problematic. Conventional broad spectrum antimicrobial agents like benzalkonium chloride (BAK) tend. . . non-steroidal anti-inflammatory agents over time and thereby reduce the efficacy of the medication. Indeed, as a general matter, preservatives in **ophthalmic** compositions are not entirely satisfactory. Effective, broad spectrum antimicrobials tend to reduce the storage stability of the composition and/or have. . .
SUMM [0016] It is an object of the present invention to provide an

ophthalmic composition that contains a topically effective amount of a non-steroidal anti-inflammatory agent and that is no more irritating than conventional. . .

SUMM [0017] It is another object of the present invention to provide a non-steroidal anti-inflammatory agent-containing **ophthalmic** composition that can be taken by a large segment of the population without experiencing stinging or irritation.

SUMM [0018] A further object of the present invention is to provide a preserved **ophthalmic** composition that exhibits good stability during storage.

SUMM . . . diseases of the eye, including inflammation, by topically applying to eyes in need of such treatment a non-steroidal anti-inflammatory agent-containing **ophthalmic** composition.

SUMM . . . forms of the invention contemplated accomplish at least some of the above objects. One embodiment of the invention is an **ophthalmic** composition comprising an aqueous medium containing an effective amount of a non-steroidal anti-inflammatory agent, wherein at least about 80 mol.. . . method for treating an eye, which comprises administering to an eye in need thereof an effective amount of such an **ophthalmic** composition. A further aspect of the present invention relates to a method for making such an **ophthalmic** composition. Another preferred embodiment of the present invention relates to an **ophthalmic** composition that is formed by combining at least (1) sodium diclofenac, (2) a divalent metal salt, (3) a water insoluble,. . .

SUMM [0021] A further embodiment of the invention is an **ophthalmic** composition which comprises water, about 0.01 to 0.5 wt. % of a perborate salt, about 0.001 to 0.06 wt. %. . .

DRWD [0022] FIG. 1 shows the illustrious results of Example 21 regarding release rate curves for an inventive and a comparative **ophthalmic** composition.

DETD . . . intended to therapeutically treat conditions of the eye itself or the tissue surrounding the eye and drugs administered via the **ophthalmic** route to treat therapeutically a local condition other than that involving the eye. Preferably the NSAI agent is useful as. . .

DETD [0036] The aqueous medium used in the present invention is made of water that has no physiologically or **ophthalmologically** harmful constituents. Typically purified or deionized water is used. The pH is adjusted by adding any physiologically and **ophthalmologically** acceptable pH adjusting acids, bases or buffers. Examples of acids include acetic, boric, citric, lactic, phosphoric, hydrochloric, and the like,. . .

DETD . . . (mOsM) to about 400 mOsM. If necessary, the osmotic pressure can be adjusted by using appropriate amounts of physiologically and **ophthalmologically** acceptable salts or excipients. When needed, sodium chloride is preferred to approximate physiologic fluid, and amounts of sodium chloride ranging. . .

DETD [0039] A preferred embodiment of the invention provides the **ophthalmic** composition as either gel or liquid drops that contain water insoluble, water-swellable polymers which release the drug over time; i.e.,. . . for use in the present composition is known by the tradename DuraSite.RTM., containing polycarbophil, which is a sustained release topical **ophthalmic** delivery system that releases the drug at a controlled rate.

DETD [0040] The **ophthalmic** compositions of the present invention have a viscosity that is suited for the selected route of administration. A viscosity up. . . about 30,000 centipoise is useful for a drop. About 30,000 to about 100,000 centipoise is an advantageous viscosity range for **ophthalmic** administration in ribbon form. The viscosity can be controlled in many ways known to the worker skilled in the art.

DETD [0042] **Ophthalmic** compositions of the present invention may be formulated so that they retain the same or substantially the same

viscosity in the eye that they had prior to administration to the eye. Alternatively, **ophthalmic** compositions of the present invention may be formulated so that there is increased gelation upon contact with tear fluid. For. . .

DETD . . . paraben, and/or chlorhexidine. It should be noted that BAK was found to be unexpectedly compatible with diclofenac in the present **ophthalmic** composition. While the reasons for this are not entirely clear, and without wishing to be bound by any theory, the. . .

DETD [0045] The preferred preservative in the divalent cation non-steroidal anti-inflammatory **ophthalmic** composition is sodium perborate in an amount of from about 0.01 to 0.5 wt. %. more preferably from 0.03 to. . .

DETD . . . presence of EDTA surprisingly enhances the stability of the composition. This three component preservative system is applicable to any aqueous **ophthalmic** composition including saline solutions, eye lubricants, medicated compositions, etc. and is not limited to use in combination with a non-steroidal. . .

DETD [0051] The water used in the preserved **ophthalmic** composition of the present invention is normally sterilized. The preserved **ophthalmic** composition can contain additional ingredients including any of the ingredients discussed previously. For example, sodium chloride can be present as part of a **saline solution**; a carboxy-containing polymer, such as polycarbophil, can be present to form a stably preserved suspension; etc. With respect to the. . .

DETD [0053] The preservative system can used in a variety of aqueous **ophthalmic** compositions such as saline solutions for cleaning **contact lenses**, as an eye wash, as an eye lubricating or wetting composition, and as a medicated composition. The preservative system of the present invention is preferably combined with the above-described divalent cation-containing **ophthalmic** composition.

DETD [0058] Although the above described methods are suitable for making the present **ophthalmic** composition, they are not the only methods. Other methods for making the present composition can be used.

DETD [0059] The **ophthalmic** compositions according to the present invention can be topically administered in accordance with techniques familiar to persons skilled in the. . . eliminate the potential for preservative-related irritation and sensitization of the corneal epithelium, as has been observed to occur particularly from **ophthalmic** medicaments containing mercurial preservatives. Multiple dose containers can also be used, if desired, particularly since relatively low viscosities can be. . .

DETD [0068] To demonstrate the surprising effect of the present invention, two **ophthalmic** compositions are prepared, which essentially differ from each other with respect to the presence or absence of a divalent cation.. . . A Composition B

Ingredient	(wt. %)	(wt. %)
Diclofenac sodium	0.033	0.033
Magnesium chloride	0.2	--
Sodium chloride	--	0.5
Sodium perborate	0.28	--
Polycarbophil	0.7	1.15
Phosphonic acid (**Dequest 2060**)	0.006	--
EDTA	--	0.1
Mannitol	1.5	1.0
Boric acid	0.75	--
Poloxamer 407	0.05	0.05
Sodium hydroxide	q.s. to pH 6.1. . .	

DETD . . . a buffer solution contained in a cell. The cell size is 0.6 ml

and the buffer is a phosphonate buffered **saline solution** containing 0.9% NaCl and 10 mM phosphate at pH 7.4. Additional buffer is then steadily passed through the cell via. . .

DETD . . . 22A (wt. %) 22B (wt. %)

Sodium diclofenac	0.03 to 0.1	0.03 to 0.1
Magnesium chloride hexahydrate	0.02 to 0.2	0.02 to 0.2
Sodium perborate	0.28	0.28
BAK	--	0.01
Polycarbophil	0.825	0.825
Dequest 2060	0.006	0.006
EDTA	0.025	0.025
Mannitol	1.5	1.5
Sodium chloride	0.05	0.05
Boric acid	1.0	1.0
Poloxamer 407	0.05	0.05
Sodium hydroxide	q.s. to pH 6.1. . .	

CLM What is claimed is:

1. An **ophthalmic** composition comprising an aqueous medium containing an effective amount of a non-steroidal anti-inflammatory agent, wherein at least about 80 mol.. . .

26. An **ophthalmic** composition obtained by combining at least (1) sodium diclofenac, (2) a divalent metal salt, (3) a water insoluble, water-swellable polymer,. . .

30. An **ophthalmic** composition comprising an aqueous suspension of a crosslinked carboxyl-containing polymer, solid diclofenac in free-acid form, dissolved diclofenac, and dissolved Mg.sup.++. . .

33. A preserved **ophthalmic** composition comprising water, about 0.01 to 0.5 wt. % of a perborate salt, about 0.001 to 0.06 wt. % of. . .

L31 ANSWER 3 OF 26 USPATFULL

AN 2001:117049 USPATFULL

TI **Ophthalmic** composition

IN Bowman, Lyle M., Pleasanton, CA, United States
Pfeiffer, James F., Oakland, CA, United States
Memarzadeh, Eric B., San Carlos, CA, United States
Roy, Samir, San Ramon, CA, United States

PA InSite Vision Incorporated, Alameda, CA, United States (U.S. corporation)

PI US 6265444 B1 20010724

AI US 1998-74419 19980508 (9)

RLI Continuation-in-part of Ser. No. US 1997-863015, filed on 23 May 1997

DT Utility

FS GRANTED

EXNAM Primary Examiner: Fay, Zohreh

LREP Arnold & Porter

CLMN Number of Claims: 31

ECL Exemplary Claim: 1

DRWN 1 Drawing Figure(s); 1 Drawing Page(s)

LN.CNT 915

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI **Ophthalmic** composition

AB An **ophthalmic** composition containing a divalent salt and a non-steroidal anti-inflammatory agent as a precipitate. The composition reduces or eliminates the risk. . . system comprising a perborate salt, a polyphosphonic acid peroxy stabilizer and EDTA provides stable preservation of a variety of aqueous **ophthalmic** compositions.

SUMM The present invention relates to **ophthalmic** compositions and more particularly, to **ophthalmic** compositions containing a divalent cation and a non-steroidal anti-inflammatory agent and/or to **ophthalmic** compositions containing a preservative system.

SUMM Non-steroidal anti-inflammatory agents can be used in a variety of **ophthalmic** treatments such as for treating ocular tissue

inflammation and its associated pain. Additional uses include (i) preventing particular side-effects from. . .

SUMM . . . Injection of anti-inflammatory agents in the form of a suspension has also been proposed. Suspensions have been used for topical **ophthalmic** applications when the drug is not very soluble. However, when the drug is soluble, at an acceptable pH, solutions are normally used to avoid potential irritation caused by the particles of the suspension. The following patents illustrate **ophthalmic** solutions containing non-steroidal anti-inflammatory agents, including diclofenac.

SUMM U.S. Pat. No. 4,829,088 to Doulakas also relates to an **ophthalmic** medicament containing diclofenac sodium in aqueous solution. The solution contains 2-amino-2-hydroxymethyl-1,3-propanediol as a preservative.

SUMM U.S. Pat. No. 5,110,493 to Cherng-Chyi et al. relates to **ophthalmic** non-steroidal anti-inflammatory drug formulations containing a quaternary ammonium preservative and a non-ionic surfactant.

SUMM . . . such a technique, there is still a segment of the population that will experience stinging when topically administering non-steroidal anti-inflammatory **ophthalmic** compositions. Accordingly, further improvements are desirable.

SUMM Additionally, preserving an **ophthalmic** composition that contains a non-steroidal anti-inflammatory agent can be problematic. Conventional broad spectrum antimicrobial agents like benzalkonium chloride (BAK) tend. . . non-steroidal anti-inflammatory agents over time and thereby reduce the efficacy of the medication. Indeed, as a general matter, preservatives in **ophthalmic** compositions are not entirely satisfactory. Effective, broad spectrum antimicrobials tend to reduce the storage stability of the composition and/or have. . .

SUMM It is an object of the present invention to provide an **ophthalmic** composition that contains a topically effective amount of a non-steroidal anti-inflammatory agent and that is no more irritating than conventional. . .

SUMM It is another object of the present invention to provide a non-steroidal anti-inflammatory agent-containing **ophthalmic** composition that can be taken by a large segment of the population without experiencing stinging or irritation.

SUMM A further object of the present invention is to provide a preserved **ophthalmic** composition that exhibits good stability during storage.

SUMM . . . diseases of the eye, including inflammation, by topically applying to eyes in need of such treatment a non-steroidal anti-inflammatory agent-containing **ophthalmic** composition.

SUMM . . . forms of the invention contemplated accomplish at least some of the above objects. One embodiment of the invention is an **ophthalmic** composition comprising an aqueous medium containing an effective amount of a non-steroidal anti-inflammatory agent, wherein at least about 80 mol.. . . method for treating an eye, which comprises administering to an eye in need thereof an effective amount of such an **ophthalmic** composition. A further aspect of the present invention relates to a method for making such an **ophthalmic** composition. Another preferred embodiment of the present invention relates to an **ophthalmic** composition that is formed by combining at least (1) sodium diclofenac, (2) a divalent metal salt, (3) a water insoluble,. . .

SUMM A further embodiment of the invention is an **ophthalmic** composition which comprises water, about 0.01 to 0.5 wt. % of a perborate salt, about 0.001 to 0.06 wt. %. . .

DRWD FIG. 1 shows the illustrious results of Example 21 regarding release rate curves for an inventive and a comparative **ophthalmic** composition.

DETD . . . intended to therapeutically treat conditions of the eye itself or the tissue surrounding the eye and drugs administered via the

ophthalmic route to treat therapeutically a local condition other than that involving the eye. Preferably the NSAI agent is useful as. . .

DETD The aqueous medium used in the present invention is made of water that has no physiologically or **ophthalmologically** harmful constituents. Typically purified or deionized water is used. The pH is adjusted by adding any physiologically and **ophthalmologically** acceptable pH adjusting acids, bases or buffers. Examples of acids include acetic, boric, citric, lactic, phosphoric, hydrochloric, and the like,. . .

DETD . . . (mOsM) to about 400 mOsM. If necessary, the osmotic pressure can be adjusted by using appropriate amounts of physiologically and **ophthalmologically** acceptable salts or excipients. When needed, sodium chloride is preferred to approximate physiologic fluid, and amounts of sodium chloride ranging. . .

DETD A preferred embodiment of the invention provides the **ophthalmic** composition as either gel or liquid drops that contain water insoluble, water-swellable polymers which release the drug over time; i.e.,. . . for use in the present composition is known by the tradename DuraSite.RTM., containing polycarbophil, which is a sustained release topical **ophthalmic** delivery system that releases the drug at a controlled rate.

DETD The **ophthalmic** compositions of the present invention have a viscosity that is suited for the selected route of administration. A viscosity up. . . about 30,000 centipoise is useful for a drop. About 30,000 to about 100,000 centipoise is an advantageous viscosity range for **ophthalmic** administration in ribbon form. The viscosity can be controlled in many ways known to the worker skilled in the art.

DETD **Ophthalmic** compositions of the present invention may be formulated so that they retain the same or substantially the same viscosity in the eye that they had prior to administration to the eye. Alternatively, **ophthalmic** compositions of the present invention may be formulated so that there is increased gelation upon contact with tear fluid. For. . .

DETD . . . paraben, and/or chlorhexidine. It should be noted that BAK was found to be unexpectedly compatible with diclofenac in the present **ophthalmic** composition. While the reasons for this are not entirely clear, and without wishing to be bound by any theory, the. . .

DETD The preferred preservative in the divalent cation non-steroidal anti-inflammatory **ophthalmic** composition is sodium perborate in an amount of from about 0.01 to 0.5 wt. %, more preferably from 0.03 to. . .

DETD . . . presence of EDTA surprisingly enhances the stability of the composition. This three component preservative system is applicable to any aqueous **ophthalmic** composition including saline solutions, eye lubricants, medicated compositions, etc. and is not limited to use in combination with a non-steroidal. . .

DETD The water used in the preserved **ophthalmic** composition of the present invention is normally sterilized. The preserved **ophthalmic** composition can contain additional ingredients including any of the ingredients discussed previously. For example, sodium chloride can be present as part of a **saline solution**; a carboxy-containing polymer, such as polycarbophil, can be present to form a stably preserved suspension; etc. With respect to the. . .

DETD The preservative system can used in a variety of aqueous **ophthalmic** compositions such as saline solutions for cleaning **contact lenses**, as an eye wash, as an eye lubricating or wetting composition, and as a medicated composition. The preservative system of the present invention is preferably combined with the above-described divalent cation-containing **ophthalmic** composition.

DETD Although the above described methods are suitable for making the present

ophthalmic composition, they are not the only methods. Other methods for making the present composition can be used.

DETD The **ophthalmic** compositions according to the present invention can be topically administered in accordance with techniques familiar to persons skilled in the. . . eliminate the potential for preservative-related irritation and sensitization of the corneal epithelium, as has been observed to occur particularly from **ophthalmic** medicaments containing mercurial preservatives. Multiple dose containers can also be used, if desired, particularly since relatively low viscosities can be. . .

DETD To demonstrate the surprising effect of the present invention, two **ophthalmic** compositions are prepared, which essentially differ from each other with respect to the presence or absence of a divalent cation.. . .

DETD . . . A Composition B

Ingredient	(wt. %)	(wt. %)
Diclofenac sodium	0.033	0.033
Magnesium chloride	0.2	--
Sodium chloride	--	0.5
Sodium perborate	0.28	--
Polycarbophil	0.7	1.15
Phosphonic acid (**Dequest 2060**)	0.006	--
EDTA	--	0.1
Mannitol	1.5	1.0
Boric acid	0.75	--
Poloxamer 407	0.05	0.05
Sodium hydroxide	q.s. to pH 6.1. . .	

DETD . . . a buffer solution contained in a cell. The cell size is 0.6 ml and the buffer is a phosphonate buffered **saline solution** containing 0.9% NaCl and 10 mM phosphate at pH 7.4. Additional buffer is then steadily passed through the cell via. . .

DETD . . . Composition 22B

Ingredient	(wt. %)	(wt. %)
Sodium diclofenac	0.03 to 0.1	0.03 to 0.1
Magnesium chloride hexahydrate	0.02 to 0.2	0.02 to 0.2
Sodium perborate	0.28	0.28
BAK	--	0.01
Polycarbophil	0.825	0.825
Dequest 2060	0.006	0.006
EDTA	0.025	0.025
Mannitol	1.5	1.5
Sodium chloride	0.05	0.05
Boric acid	1.0	1.0
Poloxamer 407	0.05	0.05
Sodium hydroxide	q.s. to pH 6.1. . .	

CLM What is claimed is:

1. An **ophthalmic** composition comprising an aqueous medium containing an effective amount of a non-steroidal anti-inflammatory agent, wherein from about 80 mol. %. . .

29. An **ophthalmic** composition comprising an aqueous suspension of a crosslinked carboxyl-containing polymer, solid diclofenac in free-acid form, dissolved diclofenac, and dissolved Mg.sup.++. . .

L31 ANSWER 4 OF 26 USPATFULL

AN 2001:79138 USPATFULL

TI Topical treatment or prevention of ocular infections

IN Dawson, Chandler R., Mill Valley, CA, United States
Bowman, Lyle M., Pleasanton, CA, United States

PA InSite Vision, Incorporated, Alameda, CA, United States (U.S. corporation)

PI US 6239113 B1 20010529

AI US 1999-346923 19990702 (9)

RLI Continuation-in-part of Ser. No. US 1999-282165, filed on 31 Mar 1999,

now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Peselev, Elli
LREP Howrey Simon Arnold & White, LLP
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 852
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM The invention also relates to a topical **ophthalmic** composition containing an azalide antibiotic. In one embodiment, the **ophthalmic** composition is a sustained release composition comprised of an aqueous suspension of the azalide antibiotic and a polymer suspending agent.
SUMM . . . eye. The azalide antibiotic can be supplied to the eye surface in a variety of ways, including as an aqueous **ophthalmic** solution or suspension, as an **ophthalmic** ointment, and as an ocular insert, but application is not limited thereto. Any technique and ocular dosage form that supplies. . .
SUMM . . . of the azalide antibiotic within a tissue of the eye. Indeed, although dependent on the amount and form of the **ophthalmic** composition, a single application will typically provide a therapeutically effective amount of the azalide antibiotic within a tissue of the. . .
SUMM . . . including blepharitis, blepharconjunctivies, meibomianitis, acute or chronic hordeolum, chalazion, dacryocystitis, dacryoadenities, and acne rosacea; conditions of the conjunctiva including conjunctivitis, **ophthalmia** neonatorum, and trachoma; conditions of the cornea including corneal ulcers, superficial and interstitial keratitis, keratoconjunctivitis, foreign bodies, and post operative. . . blebs; paracentesis of the anterior chamber; iridectomy; cataract surgery; retinal surgery; and procedures involving the extra-ocular muscles. The prevention of **ophthalmia** neonatorum is also included.
SUMM The azalide antibiotic is applied to the exterior surface of the eye, usually in an **ophthalmically** acceptable composition which comprises an **ophthalmically** acceptable carrier and the azalide antibiotic. The "**ophthalmically** acceptable carrier" is used in a broad sense and includes any material or composition that can contain and release the azalide antibiotic and that is compatible with the eye. Typically the **ophthalmically** acceptable carrier is water or an aqueous solution or suspension, but also includes oils such as those used to make. . . be used as delivery compositions as are well known in the art. The concentration of azalide antibiotic present in the **ophthalmic** composition depends upon the dosage form, the release rate, the dosing regimen, and the location and type of infection. Generally. . .
SUMM The fluid **ophthalmic** compositions of the present invention, including both ointments and suspensions, have a viscosity that is suited for the selected route. . . to 30,000 centipoise is useful for a drop. About 30,000 to about 100,000 centipoise is an advantageous viscosity range for **ophthalmic** administration in ribbon form. The viscosity can be controlled in many ways known to the worker skilled in the art.
SUMM The **ophthalmic** compositions may contain one or more of the following: surfactants, adjuvants including additional medicaments, buffers, antioxidants, tonicity adjusters, preservatives, thickeners. . .
SUMM . . . of additional medicaments in combination with the azalide antibiotic. A composition comprising an azalide antibiotic, an additional medicament, and an **ophthalmically** acceptable carrier can advantageously simplify administration and allow for treating or preventing multiple conditions or symptoms simultaneously.

The "additional medicaments," which can be present in any of the **ophthalmic** compositional forms described herein including fluid and solid forms, are pharmaceutically active compounds having efficacy in ocular application and which. . .

SUMM The aqueous **ophthalmic** compositions (solutions or suspensions) for use in the present invention use water which has no physiologically or **ophthalmically** harmful constituents. Typically purified or deionized water is used. The pH is adjusted by adding any physiologically and **ophthalmically** acceptable pH adjusting acids, bases or buffers to within the range of about 5.0 to 8.5. Examples of acids include. . .

SUMM The osmotic pressure (.pi.) of the aqueous **ophthalmic** composition is generally from about 10 milliosmolar (mOsM) to about 400 mOsM, more preferably from 260 to 340 mOsM. If necessary, the osmotic pressure can be adjusted by using appropriate amounts of physiologically and **ophthalmically** acceptable salts or excipients. Sodium chloride is preferred to approximate physiologic fluid, and amounts of sodium chloride ranging from about. . .

SUMM . . . prior to the indicated time. In some embodiments, the depot can remain for up to eight hours or more. Typical **ophthalmic** depot forms include aqueous polymeric suspensions, ointments, and solid inserts. Polymeric suspensions are the most preferred form for the present. . .

SUMM Ointments are well known **ophthalmic** compositions and are essentially an oil-based delivery vehicle. Typical ointments use a petroleum and/or lanolin base to which is added. . .

SUMM Inserts are another well known **ophthalmic** dosage form and are comprised of a matrix containing the active ingredient. The matrix is typically a polymer and the. . .

SUMM . . . monomer or monomers has been replaced by one or more non-carboxyl-containing monoethylenically unsaturated monomer or monomers containing only physiologically and **ophthalmically** innocuous substituents, including acrylic and methacrylic acid esters such as methyl methacrylate, ethyl acrylate, butyl acrylate, 2-ethylhexylacrylate, octyl methacrylate, 2-hydroxyethyl-methacrylate,. . .

SUMM . . . Carbopol.RTM.. Most preferably, a carboxy-containing polymer system known by the tradename DuraSite.RTM., containing polycarbophil, which is a sustained release topical **ophthalmic** delivery system that releases the drug at a controlled rate, is used in the aqueous polymeric suspension composition of the. . .

SUMM . . . .mu.m. The use of a monodispersion of particles will give maximum viscosity and an increased eye residence time of the **ophthalmic** medicament delivery system for a given particle size. Monodisperse particles having a particle size of 30 .mu.m and below are. . .

DETD . . .	0.10	0.10	0.10	0.10		0.10	0.10
Poloxamer 407	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Benzalkonium Chloride	0.01	0.01	0.01	0.01	--	0.01	--
Sodium Perborate	--	--	--	--	0.10	--	--
Dequest 2060S	--	--	--	--	0.10	--	--
Boric Acid	0.50	0.50	0.50	0.50	0.50	0.50	
Sodium Hydroxide	q.s.	q.s.	q.s.	q.s.	q.s..	. .	

DETD . . . is sterile filtered through a 0.22 .mu.m filter at a sufficient temperature to be filtered and filled aseptically into sterile **ophthalmic** ointment tubes.

L31 ANSWER 5 OF 26 USPATFULL
AN 2001:66939 USPATFULL
TI Antimicrobial activity of laccases
IN Johansen, Charlotte, Vasevej 1, DK-2840 Holte, Denmark
Pedersen, Anders Hjelholt, Nybro Vaenge 58, DK-2800 Lyngby, Denmark
Fuglsang, Claus Crone, Poppelhoej 43, 2990 Nivaa, Denmark

PI US 6228128 B1 20010508
AI US 1998-184419 19981102 (9)
RLI Division of Ser. No. US 1998-184418, filed on 2 Nov 1998
PRAI DK 1997-1273 19971110
DK 1998-1144 19980910
US 1998-101644P 19980923 (60)
DT Utility
FS Granted
EXNAM Primary Examiner: Del Cotto, Gregory R.
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN 5 Drawing Figure(s); 5 Drawing Page(s)
LN.CNT 1635
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM The invention is useful wherever antimicrobial treatment is needed, for example for the preservation of food, beverages, cosmetics, **contact lens** products, food ingredients paints or enzyme compositions; for antimicrobial treatment of e.g. on human or animal skin, hair, oral cavity,. . .
SUMM . . . and/or viruses on or in a cosmetic product; a method for antimicrobial treatment of microorganisms and/or viruses on or in **contact lenses** and a method of antimicrobial treatment of microorganisms and/or viruses present on or in a hard surface.
DETD . . . O having a primary particle size in the range from 1 to 10 micrometers
Citrate: Tri-sodium citrate dihydrate
Citric: Citric Acid
Perborate: Anhydrous **sodium perborate** monohydrate bleach, empirical formula NaBO.sub.2.H.sub.2 O.sub.2
PB4: Anhydrous **sodium perborate** tetrahydrate
Per-carbonate: Anhydrous sodium percarbonate bleach of empirical formula 2Na.sub.2 CO.sub.3.3H.sub.2 O.sub.2
TAED: Tetraacetyl ethylene diamine
CMC: Sodium carboxymethyl cellulose
DETPMP: Diethylene triamine penta (methylene phosphonic acid), marketed by Monsanto under the Trade name **Dequest 2060**
PVP: Polyvinylpyrrolidone polymer
EDDS: Ethylenediamine-N,N'-disuccinic acid, [S,S] isomer in the form of the sodium salt
Suds 25% paraffin wax Mpt 50.degree. C., 17%. . .
DETD . . . useful for preservation of food, beverages, cosmetics such as lotions, creams, gels, ointments, soaps, shampoos, conditioners, antiperspirants, deodorants, mouth wash, **contact lens** products, foot bath products; enzyme formulations, or food ingredients. The invention may be applied to the unpreserved food, beverages, cosmetics,. . .
DETD Treatment of **Contact Lenses**
DETD The invention may be useful for cleaning and/or antimicrobial treatment of **contact lenses**.
CLM What is claimed is:
11. The method according to claim 1, for antimicrobial treatment of **contact lenses**.

L31 ANSWER 6 OF 26 USPATFULL
AN 97:118160 USPATFULL
TI Peptides having anti-melittin activity
IN Blondelle, Sylvie E., La Jolla, CA, United States
Pinilla, Clemencia, Cardiff, CA, United States
Houghten, Richard A., Del Mar, CA, United States
PA Torrey Pines Institute, San Diego, CA, United States (U.S. corporation)
PI US 5698673 19971216
AI US 1995-434761 19950504 (8)

RLI Division of Ser. No. US 1993-79445, filed on 18 Jun 1993, now patented, Pat. No. US 5440016
DT Utility
FS Granted
EXNAM Primary Examiner: Tsang, Cecilia J.
LREP Campbell & Flores LLP
CLMN Number of Claims: 8
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 2233
DETD . . . As used herein, the term "pharmaceutically acceptable carrier" encompasses any of the standard pharmaceutical carriers, such as a phosphate buffered **saline solution**, water, and emulsions, such as an oil/water or water/oil emulsion, and various types of wetting agents.
DETD . . . or other carriers, or packaging in lipid protein vesicles or adding additional terminal amino acids), sustained release formulations, solutions (e.g. **ophthalmic** drops), suspensions, elixirs, aerosols, and the like. Water, saline, aqueous dextrose, and glycols are preferred liquid carriers, particularly (when isotonic). . .
DETD TABLE 5

ANTIMICROBIAL ACTIVITY AGAINST E. COLI OF (KFmoc)ciZ-NH.sub.2

	IC.sub.50 (.mu.g/ml)		IC.sub.50 (.mu.g/ml)
(KFmoc)ciT-NH.sub.2	17	(KFmoc)cir-NH.sub.2	18
(KFmoc)ciR-NH.sub.2	22	(KFmoc)**ciX**-NH.sub.2	26
(KFmoc)ciL-NH.sub.2	24	(KFmoc)cik-NH.sub.2	27
(KFmoc)**ciX**-NH.sub.2	26	(KFmoc)cip-NH.sub.2	31
(KFmoc)ciP-NH.sub.2	28	(KFmoc)cit-NH.sub.2	56
(KFmoc)ciH-NH.sub.2	33	(KFmoc)ciw-NH.sub.2	61
(KFmoc)ciK-NH.sub.2	35	(KFmoc)cic-NH.sub.2	61
(KFmoc)ciW-NH.sub.2	42		
(KFmoc)ciI-NH.sub.2	45		
(KFmoc)ciF-NH.sub.2	47		
(KFmoc)ciA-NH.sub.2	50		
(KFmoc)ciV-NH.sub.2	62		
(KFmoc)ciM-NH.sub.2	75		
(KFmoc)cZZ-NH.sub.2	58		
(KFmoc)ZZZ-NH.sub.2	179		

	IC.sub.50 (.mu.g/m)
(KFmoc)ci(KCBZ)-NH.sub.2	15
(KFmoc)ci(dOrn)-NH.sub.2	20
(KFmoc)ci(aAIB)-NH.sub.2	22
(KFmoc)ci(Thiopro)-NH.sub.2	25
(KFmoc)ci(aABA)-NH.sub.2	25
(KFmoc)**cix**-NH.sub.2	26
(KFmoc)ci(Orn)-NH.sub.2	31
(KFmoc)ci(Nve)-NH.sub.2	51
(KFmoc)ci(Hyp)-NH.sub.2	52
(KFmoc)ci(Nle)-NH.sub.2	78
(KFmoc)ci(KFmoc)-NH.sub.2	97

DETD . . . S. AUREUS OF
(KFmoc)ciZ-NH.sub.2

IC.sub.50 (.mu.g/ml)		IC.sub.50 (.mu.g/ml)
(KFmoc)ciR-NH.sub.2		
4	(KFmoc)cir-NH.sub.2	3
(KFmoc)ciK-NH.sub.2		
4	(KFmoc)cik-NH.sub.2	6
(KFmoc)ciP-NH.sub.2		
5	(KFmoc)cip-NH.sub.2	8
(KFmoc)ciM-NH.sub.2		
9	(KFmoc)cil-NH.sub.2	9
(KFmoc)ciH-NH.sub.2		
9	(KFmoc)**ciX**-NH.sub.2	10
(KFmoc)ciA-NH.sub.2		
9	(KFmoc)cit-NH.sub.2	14
(KFmoc)ciW-NH.sub.2		
10	(KFmoc)ciw-NH.sub.2	14
(KFmoc)ciT-NH.sub.2		
10	(KFmoc)cim-NH.sub.2	17
(KFmoc)ciL-NH.sub.2		
10	(KFmoc)cic-NH.sub.2	17
(KFmoc)**ciX**-NH.sub.2		
10	(KFmoc)cif-NH.sub.2	21
(KFmoc)ciY-NH.sub.2		

	13	(KFmoc)ciy-NH.sub.2	28
(KFmoc)ciS-NH.sub.2	16	(KFmoc)cis-NH.sub.2	29
(KFmoc)cil-NH.sub.2	19		
(KFmoc)ciF-NH.sub.2	20		
(KFmoc)ciN-NH.sub.2	22		
(KFmoc)ciV-NH.sub.2	23		
(KFmoc)cXX-NH.sub.2	23		
(KFmoc)XXX-NH.sub.2	44		

	IC.sub.50 (.mu.g/ml)
(KFmoc)ci(aAIB)-NH.sub.2	4
(KFmoc)ci(Orn)-NH.sub.2	4
(KFmoc)ci(dOrn)-NH.sub.2	4
(KFmoc)ci(KCBZ)-NH.sub.2	5
(KFmoc)ci(aABA)-NH.sub.2	5
(KFmoc)ci(Hyp)-NH.sub.2	8
(KFmoc)ci(Thiopro)-NH.sub.2	9
(KFmoc)**ciX**-NH.sub.2	10
(KFmoc)ci(KFmoc)-NH.sub.2	13
(KFmoc)ci(7aHa)-NH.sub.2	15
(KFmoc)ci(eAca)-NH.sub.2	16
(KFmoc)ci(Nve)-NH.sub.2	16
(KFmoc)ci(Nle)-NH.sub.2	22
(KFmoc)ci(NO.sub.2 F)-NH.sub.2	25

DETD	. . . 13

ANTIMICROBIAL ACTIVITY AGAINST S. SANGUIS OF (KFmoc)ciZ-NH.sub.2

	IC.sub.50 (.mu.g/ml)		IC.sub.50 (.mu.g/ml)
(KFmoc)ciR-NH.sub.2	3	(KFmoc)cir-NH.sub.2	2
(KFmoc)ciP-NH.sub.2	4	(KFmoc)cik-NH.sub.2	4

(KFmoc)ciK-NH.sub.2	
4	(KFmoc)cip-NH.sub.2
	8
(KFmoc)ciH-NH.sub.2	
5	(KFmoc)**ciX**-NH.sub.2
	14
(KFmoc)ciM-NH.sub.2	
10	(KFmoc)ciw-NH.sub.2
	19
(KFmoc)ciW-NH.sub.2	
12	(KFmoc)cis-NH.sub.2
	22
(KFmoc)**ciX**-NH.sub.2	
14	(KFmoc)cit-NH.sub.2
	27
(KFmoc)ciT-NH.sub.2	
15	(KFmoc)cim-NH.sub.2
	28
(KFmoc)ciL-NH.sub.2	
16	(KFmoc)cil-NH.sub.2
	32
(KFmoc)ciA-NH.sub.2	
16	(KFmoc)ciy-NH.sub.2
	43
(KFmoc)ciY-NH.sub.2	
16	(KFmoc)cih-NH.sub.2
	50
(KFmoc)ciF-NH.sub.2	
16	(KFmoc)cic-NH.sub.2
	53
(KFmoc)ciS-NH.sub.2	
22	(KFmoc)cia-NH.sub.2
	59
(KFmoc)ciG-NH.sub.2	
23	(KFmoc)ciV-NH.sub.2
	37
(KFmoc)ciI-NH.sub.2	
38	
(KFmoc)ciN-NH.sub.2	
47	
(KFmoc)cXX-NH.sub.2	
13	
(KFmoc)XXX-NH.sub.2	
44	

	IC.sub.50 (.mu.g/m)
(KFmoc)ci(Orn)-NH.sub.2	
2	
(KFmoc)ci(dOrn)-NH.sub.2	
2	
(KFmoc)ci(KCBZ)-NH.sub.2	
3	
(KFmoc)ci(aABA)-NH.sub.2	
4	
(KFmoc)ci(aAIB)-NH.sub.2	
5	
(KFmoc)ci(Thiopro)-NH.sub.2	
6	
(KFmoc)ci(Hyp)-NH.sub.2	
8	
(KFmoc)**ciX**-NH.sub.2	
14	

(KFmoc)ci(KFmoc)-NH.sub.2
15
(KFmoc)ci(Nve)-NH.sub.2
19
(KFmoc)ci(Nle)-NH.sub.2
28
(KFmoc)ci(NO.sub.2 F)-NH.sub.2
36
(KFmoc)ci(eAca)-NH.sub.2
42
(KFmoc)ci(7aHa)-NH.sub.2
53

DETD . . . 115
(KFmoc)ciK-NH.sub.2
161
(KFmoc)ciR-NH.sub.2
176
(KFmoc)ciH-NH.sub.2
201
(KFmoc)ciT-NH.sub.2
228
(KFmoc)ciI-NH.sub.2
305
(KFmoc)ciP-NH.sub.2
216
(KFmoc)ciW-NH.sub.2
334
(KFmoc)ciG-NH.sub.2
372
(KFmoc)**ciX**-NH.sub.2
412
(KFmoc)ciV-NH.sub.2
413
(KFmoc)ciC-NH.sub.2
537
(KFmoc)cXX-NH.sub.2
343
(KFmoc)XXX-NH.sub.2
770
(KFmoc)cit-NH.sub.2
194
(KFmoc)cih-NH.sub.2
208
(KFmoc)cil-NH.sub.2
216
(KFmoc)cif-NH.sub.2
218
(KFmoc)cii-NH.sub.2
234
(KFmoc)cip-NH.sub.2
270
(KFmoc)**ciX**-NH.sub.2
412

IC.sub.50
(.mu.g/m)

(KFmoc)ci(KCBZ)-NH.sub.2
78
(KFmoc)ci(Nve)-NH.sub.2
78
(KFmoc)ci(Orn)-NH.sub.2
115
(KFmoc)ci(dOrn)-NH.sub.2
121
(KFmoc)ci(aAIB)-NH.sub.2
183
(KFmoc)ci(aABA)-NH.sub.2
194
(KFmoc)ci(Thiopro)-NH.sub.2

197
(KFmoc)ci(Hyp)-NH.sub.2
205
(KFmoc)ci(Nle)-NH.sub.2
267
(KFmoc)ci(KFmoc)-NH.sub.2
356
(KFmoc)**ciX**-NH.sub.2
412

L31 ANSWER 7 OF 26 USPATFULL
AN 95:71466 USPATFULL
TI Peptides of the formula (KFmoc) ZZZ and their uses
IN Blondelle, Sylvie E., La Jolla, CA, United States
Houghten, Richard A., Del Mar, CA, United States
PA Torrey Pines Institute for Molecular Studies, San Diego, CA, United States (U.S. corporation)
PI US 5440016 19950808
AI US 1993-79445 19930618 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Warden, Jill; Assistant Examiner: Lukton, David
LREP Campbell and Flores
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 2219
DETD . . . As used herein, the term "pharmaceutically acceptable carrier" encompasses any of the standard pharmaceutical carriers, such as a phosphate buffered **saline solution**, water, and emulsions, such as an oil/water or water/oil emulsion, and various types of wetting agents.
DETD . . . or other carriers, or packaging in lipid protein vesicles or adding additional terminal amino acids), sustained release formulations, solutions (e.g. **ophthalmic** drops), suspensions, elixirs, aerosols, and the like. Water, saline, aqueous dextrose, and glycols are preferred liquid carriers, particularly (when isotonic). . .
DETD TABLE 5

ANTIMICROBIAL ACTIVITY AGAINST E. COLI OF
(KFmoc)ciZ-NH.sub.2

	IC.sub.50 (.mu.g/ml)		IC.sub.50 (.mu.g/ml)
(KFmoc)ciT-NH.sub.2	17	(KFmoc)cir-NH.sub.2	18
(KFmoc)ciR-NH.sub.2	22	(KFmoc)**ciX**-NH.sub.2	26
(KFmoc)ciL-NH.sub.2	24	(KFmoc)cik-NH.sub.2	27
(KFmoc)**ciX**-NH.sub.2	26	(KFmoc)cip-NH.sub.2	31
(KFmoc)ciP-NH.sub.2	28	(KFmoc)cit-NH.sub.2	56
(KFmoc)ciH-NH.sub.2	33	(KFmoc)ciw-NH.sub.2	61

(KFmoc)ciK-NH.sub.2
35
(KFmoc)cic-NH.sub.2
61
(KFmoc)ciW-NH.sub.2
42
(KFmoc)ciI-NH.sub.2
45
(KFmoc)ciF-NH.sub.2
47
(KFmoc)ciA-NH.sub.2
50
(KFmoc)ciV-NH.sub.2
62
(KFmoc)ciM-NH.sub.2
75
(KFmoc)cZZ-NH.sub.2
58
(KFmoc)ZZZ-NH.sub.2
179

	IC.sub.50 (.mu.g/m)
(KFmoc)ci(KCBZ)-NH.sub.2	15
(KFmoc)ci(dOrn)-NH.sub.2	20
(KFmoc)ci(aAIB)-NH.sub.2	22
(KFmoc)ci(Thiopro)-NH.sub.2	25
(KFmoc)ci(aABA)-NH.sub.2	25
(KFmoc)**ciX**-NH.sub.2	26
(KFmoc)ci(Orn)-NH.sub.2	31
(KFmoc)ci(Nve)-NH.sub.2	51
(KFmoc)ci(Hyp)-NH.sub.2	52
(KFmoc)ci(Nle)-NH.sub.2	78
(KFmoc)ci(KFmoc)-NH.sub.2	97

DETD . . . S. AUREUS OF
(KFmoc)ciZ-NH.sub.2

	IC.sub.50 (.mu.g/ml)		IC.sub.50 (.mu.g/ml)
(KFmoc)ciR-NH.sub.2	4	(KFmoc)cir-NH.sub.2	3
(KFmoc)ciK-NH.sub.2	4	(KFmoc)cik-NH.sub.2	6
(KFmoc)ciP-NH.sub.2	5	(KFmoc)cip-NH.sub.2	8
(KFmoc)ciM-NH.sub.2	9	(KFmoc)cil-NH.sub.2	9
(KFmoc)ciH-NH.sub.2			

9	(KFmoc)**ciX**-NH.sub.2 10
(KFmoc)ciA-NH.sub.2 9	(KFmoc)cit-NH.sub.2 14
(KFmoc)ciW-NH.sub.2 10	(KFmoc)ciw-NH.sub.2 14
(KFmoc)ciT-NH.sub.2 10	(KFmoc)cim-NH.sub.2 17
(KFmoc)ciL-NH.sub.2 10	(KFmoc)cic-NH.sub.2 17
(KFmoc)**ciX**-NH.sub.2 10	(KFmoc)cif-NH.sub.2 21
(KFmoc)ciY-NH.sub.2 13	(KFmoc)ciy-NH.sub.2 28
(KFmoc)ciS-NH.sub.2 16	(KFmoc)cis-NH.sub.2 29
(KFmoc)ciI-NH.sub.2 19	
(KFmoc)ciF-NH.sub.2 20	
(KFmoc)ciN-NH.sub.2 22	
(KFmoc)ciV-NH.sub.2 23	
(KFmoc)cXX-NH.sub.2 23	
(KFmoc)XXX-NH.sub.2 44	

	IC.sub.50 (.mu.g/m)
(KFmoc)ci(aAIB)-NH.sub.2	4
(KFmoc)ci(Orn)-NH.sub.2	4
(KFmoc)ci(dOrn)-NH.sub.2	4
(KFmoc)ci(KCBZ)-NH.sub.2	5
(KFmoc)ci(aABA)-NH.sub.2	5
(KFmoc)ci(Hyp)-NH.sub.2	8
(KFmoc)ci(Thiopro)-NH.sub.2	9
(KFmoc)**ciX**-NH.sub.2	10
(KFmoc)ci(KFmoc)-NH.sub.2	13
(KFmoc)ci(7aHa)-NH.sub.2	15
(KFmoc)ci(eAca)-NH.sub.2	16
(KFmoc)ci(Nve)-NH.sub.2	16
(KFmoc)ci(Nle)-NH.sub.2	22

(KFmoc)ci(NO.sub.2 F)-NH.sub.2
25

DETD . . . 13

ANTIMICROBIAL ACTIVITY AGAINST S. SANGUIS OF (KFmoc)ciZ-NH.sub.2

	IC.sub.50 (.mu.g/ml)		IC.sub.50 (.mu.g/ml)
(KFmoc)ciR-NH.sub.2	3	(KFmoc)cir-NH.sub.2	2
(KFmoc)ciP-NH.sub.2	4	(KFmoc)cik-NH.sub.2	4
(KFmoc)ciK-NH.sub.2	4	(KFmoc)cip-NH.sub.2	8
(KFmoc)ciH-NH.sub.2	5	(KFmoc)**ciX**-NH.sub.2	14
(KFmoc)ciM-NH.sub.2	10	(KFmoc)ciw-NH.sub.2	19
(KFmoc)ciW-NH.sub.2	12	(KFmoc)cis-NH.sub.2	22
(KFmoc)**ciX**-NH.sub.2	14	(KFmoc)cit-NH.sub.2	27
(KFmoc)ciT-NH.sub.2	15	(KFmoc)cim-NH.sub.2	28
(KFmoc)ciL-NH.sub.2	16	(KFmoc)cil-NH.sub.2	32
(KFmoc)ciA-NH.sub.2	16	(KFmoc)ciy-NH.sub.2	43
(KFmoc)ciY-NH.sub.2	16	(KFmoc)cih-NH.sub.2	50
(KFmoc)ciF-NH.sub.2	16	(KFmoc)cic-NH.sub.2	53
(KFmoc)ciS-NH.sub.2	22	(KFmoc)cia-NH.sub.2	59
(KFmoc)ciG-NH.sub.2	23	(KFmoc)ciV-NH.sub.2	37
(KFmoc)ciI-NH.sub.2	38		
(KFmoc)ciN-NH.sub.2	47		
(KFmoc)cXX-NH.sub.2	13		
(KFmoc)XXX-NH.sub.2	44		

IC.sub.50 (.mu.g/m)

(KFmoc)ci(Orn)-NH.sub.2
2
(KFmoc)ci(dOrn)-NH.sub.2
2
(KFmoc)ci(KCBZ)-NH.sub.2
3
(KFmoc)ci(aABA)-NH.sub.2
4
(KFmoc)ci(aAIB)-NH.sub.2
5
(KFmoc)ci(Thiopro)-NH.sub.2
6
(KFmoc)ci(Hyp)-NH.sub.2
8
(KFmoc)**ciX**-NH.sub.2 14
(KFmoc)ci(KFmoc)-NH.sub.2
15
(KFmoc)ci(Nve)-NH.sub.2
19
(KFmoc)ci(Nle)-NH.sub.2
28
(KFmoc)ci(NO.sub.2 F)-NH.sub.2
36
(KFmoc)ci(eAca)-NH.sub.2
42
(KFmoc)ci(7aHa)-NH.sub.2
53

DETD . . . 115
(KFmoc)ciK-NH.sub.2
161
(KFmoc)ciR-NH.sub.2
176
(KFmoc)ciH-NH.sub.2
201
(KFmoc)ciT-NH.sub.2
228
(KFmoc)ciI-NH.sub.2
305
(KFmoc)ciP-NH.sub.2
216
(KFmoc)ciW-NH.sub.2
334
(KFmoc)ciG-NH.sub.2
372
(KFmoc)**ciX**-NH.sub.2
412
(KFmoc)ciV-NH.sub.2
413
(KFmoc)ciC-NH.sub.2
537
(KFmoc)cXX-NH.sub.2
343
(KFmoc)XXX-NH.sub.2
770
(KFmoc)cit-NH.sub.2
194
(KFmoc)cih-NH.sub.2
208
(KFmoc)cil-NH.sub.2
216
(KFmoc)cif-NH.sub.2
218
(KFmoc)cii-NH.sub.2
234
(KFmoc)cip-NH.sub.2
270
(KFmoc)**ciX**-NH.sub.2
412

	IC.sub.50 (.mu.g/m)
(KFmoc)ci(KCBZ)-NH.sub.2	78
(KFmoc)ci(Nve)-NH.sub.2	78
(KFmoc)ci(Orn)-NH.sub.2	115
(KFmoc)ci(dOrn)-NH.sub.2	121
(KFmoc)ci(aAIB)-NH.sub.2	183
(KFmoc)ci(aABA)-NH.sub.2	194
(KFmoc)ci(Thiopro)-NH.sub.2	197
(KFmoc)ci(Hyp)-NH.sub.2	205
(KFmoc)ci(Nle)-NH.sub.2	267
(KFmoc)ci(KFmoc)-NH.sub.2	356
(KFmoc)**ci**X-NH.sub.2	412

L31 ANSWER 8 OF 26 USPATFULL
AN 93:89428 USPATFULL
TI Method of imparting antimicrobial acitivity to an **ophthalmic** composition
IN Tsao, Fu-Pao, Lawrenceville, GA, United States
Nicolson, Paul C., Dunwoody, GA, United States
Littlefield, Susan A., Duluth, GA, United States
PA Ciba-Geigy Corporation, Ardsley, NY, United States (U.S. corporation)
PI US 5256420 19931026
AI US 1991-812780 19911223 (7)
DT Utility
FS Granted
EXNAM Primary Examiner: Page, Thurman K.; Assistant Examiner: Spear, James M.
LREP Roberts, Edward McC., Hervey, William G.
CLMN Number of Claims: 12
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 299
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
TI Method of imparting antimicrobial acitivity to an **ophthalmic** composition
AB A method of imparting antimicrobial activity to an **ophthalmic** composition includes the step of adding a polyquaternary ammonium salt to the composition. The method may be employed, for example, for disinfecting a **contact lens** or preserving a solution, ointment or suspension.
SUMM The present invention relates to a method of imparting antimicrobial activity to an **ophthalmic** composition. More particularly, it relates to the use of a particular polymeric quaternary ammonium compound to improve disinfectant and preservative qualities in compositions which come into contact with the eye or with **ophthalmic** devices, such as **contact lenses**.
SUMM . . . which provide high bactericidal efficacy coupled with low cytotoxicity. A number of preserving and disinfecting methods are known in the **contact lens** art. Typically, these methods employ either sorbic acid, thimerosal, chlorhexidine or a conventional quaternary germicide such as benzalkonium chloride. However,. . .
SUMM U.S. Pat. Nos. 4,525,346 and 4,407,791 to Stark relates to antimicrobial

ophthalmic compositions containing the quaternary ammonium compound "1-tris(2-hydroxyethyl)ammonium-2-butenyl-4-poly[1-dimethyl ammonium-2-butenyl]-w-tris(2-hydroxyethyl) ammonium." This compound, however, is unstable in the presence of hydrogen peroxide, which is used in a number of **contact lens** disinfecting and preserving methods. It is also subject to improvement in bactericidal efficacy, particularly in instances involving Serratia marcescens.

SUMM Therefore, there exists a need for an improved method of imparting antimicrobial activity to **ophthalmic** compositions.

SUMM The object of the present invention is to provide a method for imparting antimicrobial activity to an **ophthalmic** composition which can be successfully employed regardless of the presence of hydrogen peroxide. The method includes the step of adding. . . low cytotoxicity and high bactericidal efficacy, particularly in instances involving Serratia marcescens. The method may be used for disinfecting a **contact lens** or preserving a solution, ointment or suspension.

DETD The present invention relates to a method of imparting antimicrobial activity to an **ophthalmic** composition by adding to the composition a previously known polymeric quaternary ammonium salt compound. Surprisingly, it has been found that. . . invention provides a composition that is stable in the presence of hydrogen peroxide, which is present in a number of **contact lens** disinfection and preservative systems and which is known to cause yellowing of lenses in other types of quaternary ammonium salt-based. . .

DETD The method of the present invention may be employed, by way of example, for disinfecting **contact lenses** or other **ophthalmic** devices, as well as for preserving **contact lens** compositions such as cleaning or wetting solutions. In addition, the disinfectant and preservative qualities of the polyquaternary compound may be. . .

DETD . . . an aqueous formulation of a solution incorporating the present method. The formulation may be used, for example, as a combined **contact lens** cleaning/disinfecting solution, with the only additional consideration being the presence of a fungicide to meet current U.S. Food and Drug. . .

DETD

EXAMPLE I

Polyquaternary compound D-17-1242 (20% solid from CIBA-Geigy Corp.)	0.004%
Citric acid	0.1%
Pluronic P127	0.05%
Hydrogen peroxide	0.005%
Dequest 2060	0.006%
Sodium chloride	0.61%
Sodium tetraborate .multidot. 10 H.sub.2 O	0.005%
Boric acid	0.5%
Deionized H.sub.2 O q.s.	100 ml
q.s. pH	7.0

CLM What is claimed is:

1. A method of imparting antimicrobial activity to an **ophthalmic** composition, in the presence of hydrogen peroxide comprising adding to the composition a quaternary ammonium salt in which the cationic. . .

9. The method of claim 1, wherein said quaternary ammonium salt is used to disinfect an **ophthalmic** device.

11. The method of claim 1, wherein said composition is used to disinfect a rigid gas permeable **ophthalmic** device.

12. The method of claim 11, wherein said rigid gas permeable **ophthalmic** device is comprises of polymethyl methacrylate.

L31 ANSWER 9 OF 26 USPATFULL
AN 84:17166 USPATFULL
TI Novel hydroxy substituted prostanoic acids, esters, congeners, intermediates and process
IN Floyd, Jr., Middleton B., Suffern, NY, United States
Weiss, Martin J., Oradell, NJ, United States
Poletto, John F., Nanuet, NY, United States
Schaub, Robert E., Upper Saddle River, NJ, United States
Bernady, Karel F., Belle Mead, NJ, United States
PA American Cyanamid Company, Stamford, CT, United States (U.S. corporation)
PI US 4439365 19840327
AI US 1979-58415 19790718 (6)
RLI Division of Ser. No. US 1978-922285, filed on 6 Jul 1978 which is a division of Ser. No. US 1978-806871, filed on 30 May 1978 which is a continuation-in-part of Ser. No. US 1975-540052, filed on 10 Jan 1975 which is a division of Ser. No. US 1973-355349, filed on 7 Apr 1973, now patented, Pat. No. US 3873607 which is a division of Ser. No. US 1972-274768, filed on 24 Jul 1972
DT Utility
FS Granted
EXNAM Primary Examiner: Howard, Jacqueline V.
LREP Raymond, Robert P.
CLMN Number of Claims: 3
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 8528
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM . . . hydroxycyclopentenones (CX) and (CXI) and the isomerization of (CX) to (CXI) may take place through the intermediacy of the 3,4-diol (**CIX**). It is also conceivable that isomerization of (CX) to (CXI) procedes via the epoxy derivative (CVIII) or the corresponding .alpha.-epoxide (CXIb); it is further conceivable that (CVIII) procedes to (CX) and (CXI) directly without the intermediacy of (**CIX**). Another possible intermediate for the isomerization of (CX) to (CXI) is the corresponding diene (CXIa). The preparation of (CXI) is. . .
DETD . . . aqueous phase is acidified with hydrochloric acid and extracted with ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 3.35 g. of a yellow oil.
DETD . . . minutes and the solution is then washed with cold water, cold 10% hydrochloric acid, cold sodium bicarbonate solution, and cold **saline solution**. The organic phase is dried (MgSO.sub.4) and concentrated to give an oil which solidifies upon cooling. Crystallization from ether-petroleum ether. . .
DETD . . . reaction mixture is poured into water and extracted with diethyl ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.89 g. of a light yellow oil.
DETD . . . phase is acidified with hydrochloric acid, extracted with diethyl ether, and the organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.86 g. of a yellow oil.
DETD . . . solid precipitates and is collected. The residue is extracted with diethyl ether and the organic phase is washed with saturated **saline solution**, dried (MgSO.sub.4), and evaporated to yield additional solid. The combined solid material is crystallized from ether/pet ether (30.degree.-60.degree. C..degree.) to. . .
DETD . . . evaporated and the residue is dissolved in ether. The organic phase is washed with water, sodium bicarbonate solution, and saturated

saline solution, dried (MgSO.sub.4), and evaporated to give 1.371 g. of a light yellow oil.

DETD . . . is taken to dryness. The residue is taken up in ether and the ethereal solution is washed several times with **saline solution**, dried with anhydrous magnesium sulfate, and taken to dryness to afford the subject butyl ester.

DETD . . . mixture is poured into cold dilute hydrochloric acid and is extracted with ether. The combined ether extracts are washed with **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to give 700 g. of crude amber oil, which is distilled under. . .

DETD . . . hour, the solution is concentrated and the residue is dissolved in ether washed with water, dilute sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 415 g. of crude oil, which is distilled under vacuum to yield. . .

DETD . . . made acidic with dilute hydrochloric acid and is then extracted with ether. The ether extracts are washed with water and **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to 500 g. of crude yellow oil, which is distilled to give. . .

DETD . . . for fifteen minutes and then concentrated. The residue is dissolved in ether, washed with water, diluted sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 51 g. of crude oil. Distillation gives 40 g. (67%) b.p. 135-145. . .

DETD . . . for an additional 45 minutes the orange colored chloroform layer is separated and washed with dilute sodium bisulfite and saturated **saline solution**, dried over magnesium sulfate and taken to dryness in vacuo (bath temperature: 35.degree.-40.degree.) leaving an amber colored oil. A slurry. . .

DETD . . . of eighteen hours. The mixture is poured into water and extracted with ether. The organic phase is washed with saturated **saline solution**, then water and is dried. Evaporation of solvents leaves subject product, which is purified by distillation. The combined organic phases. . .

L31 ANSWER 10 OF 26 USPATFULL

AN 82:38824 USPATFULL

TI Novel 2-substituted-3,4-epoxycyclopentan-1-ones, 2-substituted-3,4-epoxycyclopentan-1-ols, and various 2-substituted-cyclopentenones

IN Bernady, Karel F., Suffern, NY, United States
Floyd, Jr., Middleton B., Suffern, NY, United States
Poletto, John F., Nanuet, NY, United States
Schaub, Robert E., Upper Saddle River, NJ, United States
Weiss, Martin J., Oradell, NJ, United States

PA American Cyanamid Company, Stamford, CT, United States (U.S. corporation)

PI US 4343949 19820810

AI US 1979-84237 19791012 (6)

DCD 19971202

RLI Continuation of Ser. No. US 1977-835613, filed on 22 Sep 1977, now patented, Pat. No. US 4179574 which is a division of Ser. No. US 1976-737941, filed on 2 Nov 1976, now abandoned which is a division of Ser. No. US 1975-603467, filed on 11 Aug 1975, now abandoned which is a division of Ser. No. US 1973-355101, filed on 27 Apr 1973, now abandoned

DT Utility

FS Granted

EXNAM Primary Examiner: Gerstl, Robert

LREP Hammond, Richard J., Raymond, Robert P.

CLMN Number of Claims: 3

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 8560

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . hydroxycyclopentenones (CX) and (CXI) and the isomerization of (CX) to (CXI) may take place through the intermediacy of the 3,4-diol (**CIX**). It is also conceivable that isomerization of (CX) to (CXI) procedes via the epoxy derivative (CVIII) or the corresponding .alpha.-epoxide (CXIb); it is further conceivable that (CVIII) procedes to (CX) and (CXI) directly without the intermediacy of (**CIX**). Another possible intermediate for the isomerization of (CX) to (CXI) is the corresponding diene (CXIa). The preparation of (CXI) is. . .

DETD . . . aqueous phase is acidified with hydrochloric acid and extracted with ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 3.35 g. of a yellow oil.

DETD . . . minutes and the solution is then washed with cold water, cold 10% hydrochloric acid, cold sodium bicarbonate solution, and cold **saline solution**. The organic phase is dried (MgSO.sub.4) and concentrated to give an oil which solidifies upon cooling. Crystallization from ether-petroleum ether. . .

DETD . . . reaction mixture is poured into water and extracted with diethyl ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.89 g. of a light yellow oil.

DETD . . . phase is acidified with hydrochloric acid, extracted with diethyl ether, and the organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.86 g. of a yellow oil.

DETD . . . solid precipitates and is collected. The residue is extracted with diethyl ether and the organic phase is washed with saturated **saline solution**, dried (MgSO.sub.4), and evaporated to yield additional solid. The combined solid material is crystallized from ether/pet ether (30.degree.-60.degree. C.) to. . .

DETD . . . evaporated and the residue is dissolved in ether. The organic phase is washed with water, sodium bicarbonate solution, and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.371 g. of a light yellow oil.

DETD . . . is taken to dryness. The residue is taken up in ether and the ethereal solution is washed several times with **saline solution**, dried with anhydrous magnesium sulfate, and taken to dryness to afford the subject butyl ester.

DETD . . . mixture is poured into cold dilute hydrochloric acid and is extracted with ether. The combined ether extracts are washed with **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to give 700 g. of crude amber oil, which is distilled under. . .

DETD . . . hour, the solution is concentrated and the residue is dissolved in ether washed with water, dilute sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 415 g. of crude oil, which is distilled under vacuum to yield. . .

DETD . . . made acidic with dilute hydrochloric acid and is then extracted with ether. The ether extracts are washed with water and **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to 500 g. of crude yellow oil, which is distilled to give. . .

DETD . . . for fifteen minutes and then concentrated. The residue is dissolved in ether, washed with water, diluted sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 51 g. of crude oil. Distillation gives 40 g. (67%) b.p. 135-145. . .

DETD . . . for an additional 45 minutes the orange colored chloroform layer is separated and washed with dilute sodium bisulfite and saturated **saline solution**, dried over magnesium sulfate and taken to dryness in vacuo (bath temperature: 35.degree.-40.degree.) leaving an amber colored oil. A slurry. . .

DETD . . . of eighteen hours. The mixture is poured into water and extracted with ether. The organic phase is washed with saturated

saline solution, then water and is dried. Evaporation of solvents leaves subject product, which is purified by distillation. The combined organic phases. . .

L31 ANSWER 11 OF 26 USPATFULL
AN 80:25824 USPATFULL
TI 6-Keto prostaglandin E-type compounds
IN Axen, Udo F., Plainwell, MI, United States
PA The Upjohn Company, Kalamazoo, MI, United States (U.S. corporation)
PI US 4205178 19800527
AI US 1977-829679 19770902 (5)
RLI Continuation-in-part of Ser. No. US 1976-755675, filed on 30 Dec 1976, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Gerstl, Robert
LREP Armitage, Robert A., Nielsen, Morris L.
CLMN Number of Claims: 44
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 2854
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM Thereafter, the formula CVIII product is used to prepare the corresponding **CIX** urethane by reaction of the formula CVIII secondary amine (wherein L.sub.2 is alkyl) with an alkyl chloroformate. The reaction thus. . . amines. Finally, the formula CX product wherein L.sub.2 and L.sub.3 are both alkyl is prepared by reduction of the formula **CIX** cabamide. Accordingly, methods hereinabove described for the preparation of the formula CVIII compound from the formula CVI compound are used.. . .
DETD . . . for 1 hr. The mixture is diluted with diethyl ether and quenched with acetic acid. The solution is washed with **saline solution** (5%) and aqueous bicarbonate (5%) solutons, dried, and concentrated to a mixture of C-15 epimers (XIII). Separation is achieved by. . .
DETD . . . The mixture is stirred for 2 hr., treated with 20 ml. of 2 N. sodium thiosulfate, washed with aqueous 5% **saline solution**, dried and concentrated to yield XV, 2.95 g. An analytical sample obtained by subjecting a portion to silica gel chromatography. . .
DETD . . . in methylene chloride. After 20 hr. the mixture is diluted with diethyl ether, washed with aqueous sodium bicarbonate (5%) and **saline solution** (5%), dried, and concentrated. The residue is 1.12 g., having NMR peaks at 0.9, 1.05-2.20, 2.2-3.2, 3.2-4.35, 3.66, 4.35-4.15, and. . .

L31 ANSWER 12 OF 26 USPATFULL
AN 79:51122 USPATFULL
TI Novel 2-substituted-3,4-epoxycyclopentan-1-ones, 2-substituted-3,4-epoxycyclopentan-1-ols, and various 2-substituted-cyclo-pentenones
IN Bernady, Karel F., Suffern, NY, United States
Floyd, Jr., Middleton B., Suffern, NY, United States
Poletto, John F., Nanuet, NY, United States
Schaub, Robert E., Upper Saddle River, NJ, United States
Weiss, Martin J., Oradell, NJ, United States
PA American Cyanamid Company, Stamford, CT, United States (U.S. corporation)
PI US 4179574 19791218
AI US 1977-835613 19770922 (5)
RLI Division of Ser. No. US 1976-737941, filed on 2 Nov 1976, now abandoned which is a division of Ser. No. US 1975-603467, filed on 11 Aug 1975, now abandoned which is a division of Ser. No. US 1973-355101, filed on 27 Apr 1973, now abandoned
DT Utility

FS Granted
EXNAM Primary Examiner: Gerstl, Robert
CLMN Number of Claims: 2
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 8514
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM . . . hydroxycyclopentenones (CX) and (CXI) and the isomerization of (CX) to (CXI) may take place through the intermediacy of the 3,4-diol (**CIX**). It is also conceivable that isomerization of (CX) to (CXI) procedes via the epoxy derivative (CVIII) or the corresponding .alpha.-epoxide (CXIb); it is further conceivable that (CVIII) procedes to (CX) and (CXI) directly without the intermediacy of (**CIX**). Another possible intermediate for the isomerization of (CX) to (CXI) is the corresponding diene (CXIa). The preparation of (CXI) is. . .
DETD . . . aqueous phase is acidified with hydrochloric acid and extracted with ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 3.35 g. of a yellow oil.
DETD . . . minutes and the solution is then washed with cold water, cold 10% hydrochloric acid, cold sodium bicarbonate solution, and cold **saline solution**. The organic phase is dried (MgSO.sub.4) and concentrated to give an oil which solidifies upon cooling. Crystallization from ether-petroleum ether. . .
DETD . . . reaction mixture is poured into water and extracted with diethyl ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.89 g. of a light yellow oil.
DETD . . . phase is acidified with hydrochloric acid, extracted with diethyl ether, and the organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.86 g. of a yellow oil.
DETD . . . solid precipitates and is collected. The residue is extracted with diethyl ether and the organic phase is washed with saturated **saline solution**, dried (MgSO.sub.2), and evaporated to yield additional solid. The combined solid material is crystallized from ether/pet ether (30.degree.-60.degree. C.) to. . .
DETD . . . evaporated and the residue is dissolved in ether. The organic phase is washed with water, sodium bicarbonate solution, and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.371 g. of a light yellow oil.
DETD . . . is taken to dryness. The residue is taken up in ether and the ethereal solution is washed several times with **saline solution**, dried with anhydrous magnesium sulfate, and taken to dryness to afford the subject butyl ester.
DETD . . . mixture is poured into cold dilute hydrochloric acid and is extracted with ether. The combined ether extracts are washed with **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to give 700 g. of crude amber oil, which is distilled under. . .
DETD . . . hour, the solution is concentrated and the residue is dissolved in ether washed with water, dilute sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 415 g. of crude oil, which is distilled under vacuum to yield. . .
DETD . . . made acidic with dilute hydrochloric acid and is then extracted with ether. The ether extracts are washed with water and **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to 500 g. of crude yellow oil, which is distilled to give. . .
DETD . . . for fifteen minutes and then concentrated. The residue is dissolved in ether, washed with water, diluted sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 51 g. of crude oil. Distillation gives 40 g. (67%) b.p. 135-145. . .

DETD . . . for an additional 45 minutes the orange colored chloroform layer is separated and washed with dilute sodium bisulfite and saturated **saline solution**, dried over magnesium sulfate and taken to dryness in vacuo (bath temperature: 35.degree.-40.degree.) leaving an amber colored oil. A slurry. . .

DETD . . . of eighteen hours. The mixture is poured into water and extracted with ether. The organic phase is washed with saturated **saline solution**, then water and is dried. Evaporation of solvents leaves subject product, which is purified by distillation. The combined organic phases. . .

L31 ANSWER 13 OF 26 USPATFULL

AN 79:42372 USPATFULL

TI Tri-halo prostaglandin intermediates

IN Smith, Herman W., Kalamazoo, MI, United States

PA The Upjohn Company, Kalamazoo, MI, United States (U.S. corporation)

PI US 4171447 19791016

AI US 1978-904479 19780510 (5)

RLI Division of Ser. No. US 1977-829678, filed on 2 Sep 1977, now Defensive Publication No. which is a continuation-in-part of Ser. No. US 1976-755674, filed on 30 Dec 1976, now abandoned

DT Utility

FS Granted

EXNAM Primary Examiner: Gerstl, Robert

LREP Nielsen, Morris L.

CLMN Number of Claims: 3

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 2805

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM Thereafter, the formula CVIII product is used to prepare the corresponding **CIX** urethane by reaction of the formula CVIII secondary amine (wherein L.sub.2 is alkyl) with an alkyl chloroformate. The reaction thus. . . amines. Finally, the formula CX product wherein L.sub.2 and L.sub.3 are both alkyl is prepared by reduction of the formula **CIX** carbamide. Accordingly, methods hereinabove described for the preparation of the formula CVIII compound from the formula CVI compound are used.. . .

DETD . . . for 1 hr. The mixture is diluted with diethyl ether and quenched with acetic acid. The solution is washed with **saline solution** (5%) and aqueous bicarbonate (5%) solutions, dried, and concentrated to a mixture of C-15 epimers (XIII). Separation is achieved by. . .

DETD . . . The mixture is stirred for 2 hr., treated with 20 ml. of 2 N. sodium thiosulfate, washed with aqueous 5% **saline solution**, dried and concentrated to yield XV, 2.95 g. An analytical sample obtained by subjecting a portion to silica gel chromatography. . .

DETD . . . in methylene chloride. After 20 hr. the mixture is diluted with diethyl ether, washed with aqueous sodium bicarbonate (5%) and **saline solution** (5%), dried, and concentrated. The residue is 1.12 g., having NMR peaks at 0.9, 1.05-2.20, 2.2-3.2, 3.2-4.35, 3.66, 4.35-4.15, and. . .

L31 ANSWER 14 OF 26 USPATFULL

AN 79:40636 USPATFULL

TI Alkenyl-substituted 9-deoxy-6,9-.alpha.-epoxymethano-PG analogs

IN Kelly, Robert C., Kalamazoo, MI, United States

PA The Upjohn Company, Kalamazoo, MI, United States (U.S. corporation)

PI US 4169841 19791002

AI US 1978-941815 19780911 (5)

RLI Division of Ser. No. US 1977-788145, filed on 19 Apr 1977, now patented, Pat. No. US 4130569

DT Utility

FS Granted
EXNAM Primary Examiner: Chan, Nicky
LREP Nielsen, Morris L.
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1615
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM . . . antiseptic treatment for animals, including humans, useful domestic animals, pets, zoological specimens, and laboratory animals. They are further useful in **ophthalmiatrics**.
DETD Thereafter, the formula CVIII product is used to prepare the corresponding **CIX** urethane by reaction of the formula CVIII secondary amine (wherein L.sub.2 is alkyl) wth an alkyl chloroformate. The reaction thus. . . amines. Finally, the formula CX product wherein L.sub.2 and L.sub.3 are both alkyl is prepared by reduction of the formula **CIX** carbamide. Accordingly, methods hereinabove described for the preparation of the formula CVIII compound from the formula CVI compound are used.

L31 ANSWER 15 OF 26 USPATFULL
AN 78:69116 USPATFULL
TI 9-Deoxy-6,9-epoxymethano-prostaglandin derivatives
IN Kelly, Robert C., Kalamazoo, MI, United States
PA The Upjohn Company, Kalamazoo, MI, United States (U.S. corporation)
PI US 4130569 19781219
AI US 1977-788145 19770419 (5)
DT Utility
FS Granted
EXNAM Primary Examiner: Chan, Nicky
LREP Nielsen, Morris L.
CLMN Number of Claims: 29
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1697
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM . . . antiseptic treatment for animals, including humans, useful domestic animals, pets, zoological specimens, and laboratory animals. They are further useful in **ophthalmiatrics**.
SUMM Thereafter, the formula CVIII product is used to prepare the corresponding **CIX** urethane by reaction of the formula CVIII secondary amine (wherein L.sub.2 is alkyl) with an alkyl chloroformate. The reaction thus. . . amines. Finally, the formula CX product wherein L.sub.2 and L.sub.3 are both alkyl is prepared by reduction of the formula **CIX** carbamide. Accordingly, methods hereinabove described for the preparation of the formula CVIII compound from the formula CVI compound are used.

L31 ANSWER 16 OF 26 USPATFULL
AN 78:63879 USPATFULL
TI Certain 5,6-dihydra-prostacyclin analogs
IN Nelson, Norman A., Galesburg, MI, United States
PA The Upjohn Company, Kalamazoo, MI, United States (U.S. corporation)
PI US 4125713 19781114
AI US 1977-857203 19771205 (5)
RLI Continuation-in-part of Ser. No. US 1977-788147, filed on 19 Apr 1977, now abandoned which is a continuation-in-part of Ser. No. US 1976-691399, filed on 1 Jun 1976, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Jiles, Henry R.; Assistant Examiner: Dentz, Bernard
LREP Nielsen, Morris L.
CLMN Number of Claims: 72
ECL Exemplary Claim: 1

DRWN 2 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 3954
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM . . . antiseptic treatment for animals, including humans, useful domestic animals, pets, zoological specimens, and laboratory animals. They are further useful in **ophthalmiatrics**.
DETD Thereafter, the formula CVIII product is used to prepare the corresponding **CIX** urethane by reaction of the formula CVIII secondary amine (wherein L.sub.2 is alkyl) with an alkyl chloroformate. The reaction thus. . . amines. Finally, the formula CX product wherein L.sub.2 and L.sub.3 are both alkyl is prepared by reduction of the formula **CIX** carbamide. Accordingly, methods hereinabove described for the preparation of the formula CVIII compound from the formula CVI compound are used.
DETD . . . for 1 hr. The mixture is diluted with diethyl ether and quenched with acetic acid. The solution is washed with **saline solution** (5%) and aqueous bicarbonate (5%) solutions, dried, and concentrated to a mixture of C-15 epimers (XCII). Separation is achieved by. . .

L31 ANSWER 17 OF 26 USPATFULL
AN 78:63878 USPATFULL
TI Certain 5,6-dihydro-prostacyclin analogs
IN Axen, Udo F., Plainwell, MI, United States
PA The Upjohn Company, Kalamazoo, MI, United States (U.S. corporation)
PI US 4125712 19781114
AI US 1977-857236 19771205 (5)
RLI Continuation-in-part of Ser. No. US 1977-788146, filed on 19 Apr 1977, now abandoned which is a continuation-in-part of Ser. No. US 1976-691400, filed on 1 Jun 1976, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Jiles, Henry R.; Assistant Examiner: Dentz, Bernard
LREP Nielsen, Morris L.
CLMN Number of Claims: 116
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 4204
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM . . . antiseptic treatment for animals, including humans, useful domestic animals, pets, zoological specimens, and laboratory animals. They are further useful in **ophthalmiatrics**.
DETD Thereafter, the formula CVIII product is used to prepare the corresponding **CIX** urethane by reaction of the formula CVIII secondary amine (wherein L.sub.2 is alkyl) with an alkyl chloroformate. The reaction thus. . . amines. Finally, the formula CX product wherein L.sub.2 and L.sub.3 are both alkyl is prepared by reduction of the formula **CIX** carbamide. Accordingly, methods hereinabove described for the preparation of the formula CVIII compound from the formula CVI compound are used.
DETD . . . for 1 hr. The mixture is diluted with diethyl ether and quenched with acetic acid. The solution is washed with **saline solution** (5%) and aqueous bicarbonate (5%) solutions, dried, and concentrated to a mixture of C-15 epimers (XCII). Separation is achieved by. . .

L31 ANSWER 18 OF 26 USPATFULL
AN 78:62690 USPATFULL
TI Certain 5-halo-6,9.alpha.-epoxy-14-bromo(or chloro)-PGF.sub.1 compounds
IN Smith, Herman W., Kalamazoo, MI, United States
PA The Upjohn Company, Kalamazoo, MI, United States (U.S. corporation)
PI US 4124601 19781107
AI US 1977-829678 19770902 (5)
RLI Continuation-in-part of Ser. No. US 1976-755674, filed on 30 Dec 1976,

now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Jiles, Henry R.; Assistant Examiner: Dentz, Bernard
LREP Nielsen, Morris L.
CLMN Number of Claims: 6
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 2866
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM Thereafter, the formula CVIII product is used to prepare the corresponding **CIX** urethane by reaction of the formula CVIII secondary amine (wherein L.sub.2 is alkyl) with an alkyl chloroformate. The reaction thus. . . amines. Finally, the formula CX product wherein L.sub.2 and L.sub.3 are both alkyl is prepared by reduction of the formula **CIX** carbamide. Accordingly, methods hereinabove described for the preparation of the formula CVIII compound from the formula CVI compound are used.. . .
DETD . . . for 1 hr. The mixture is diluted with diethyl ether and quenched with acetic acid. The solution is washed with **saline solution** (5%) and aqueous bicarbonate (5%) solutions, dried, and concentrated to a mixture of C-15 epimers (XIII). Separation is achieved by. . .
DETD . . . ml.). The mixture is stirred for 2 hr., treated with 20 ml. of 2N. sodium thiosulfate, washed with aqueous 5% **saline solution**, dried and concentrated to yield XV, 2.95 g. An analytical sample obtained by subjecting a portion to silica gel chromatography. . .
DETD . . . in methylene chloride. After 20 hr. the mixture is diluted with diethyl ether, washed with aqueous sodium bicarbonate (5%) and **saline solution** (5%), dried, and concentrated. The residue is 1.12 g., having NMR peaks at 0.9, 1.05-2.20, 2.2-3.2, 3.2-4.35, 3.66, 4.35-4.15,. . .

L31 ANSWER 19 OF 26 USPATFULL
AN 78:61453 USPATFULL
TI Novel 11-hydroxy-9-keto-5,6-cis-13,14-cis-prostadienoic acid derivatives
IN Bernady, Karel F., Belle Mead, NJ, United States
Floyd, Jr., Middleton B., Suffern, NY, United States
Poletto, John F., Nanuet, NY, United States
Schaub, Robert E., Upper Saddle River, NJ, United States
Weiss, Martin J., Oradell, NJ, United States
PA American Cyanamid Company, Stamford, CT, United States (U.S. corporation)
PI US 4123456 19781031
AI US 1977-769764 19770217 (5)
RLI Continuation-in-part of Ser. No. US 1974-521719, filed on 7 Nov 1974, now abandoned which is a continuation of Ser. No. US 1973-355352, filed on 27 Apr 1973, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Gerstl, Robert
LREP Polyn, Denis A.
CLMN Number of Claims: 9
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 8663
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
DETD . . . hydroxycyclopentenones (CX) and (CXI) and the isomerization of (CX) to (CXI) may take place through the intermediacy of the 3,4-diol (**CIX**). It is also conceivable that isomerization of (CX) to (CXI) procedes via the epoxy derivative (CVIII) or the corresponding .alpha.-epoxide (CXIb); it is further conceivable that (CVIII) proceeds to (CX) and (CXI) directly without the intermediacy of (**CIX**).

Another possible intermediate for the isomerization of (CX) to (CXI) is the corresponding diene (CXIa). The preparation of (CXI) is. . .

DETD . . . aqueous phase is acidified with hydrochloric acid and extracted with ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 3.35 g. of a yellow oil.

DETD . . . minutes and the solution is then washed with cold water, cold 10% hydrochloric acid, cold sodium bicarbonate solution, and cold **saline solution**. The organic phase is dried (MgSO.sub.4) and concentrated to give an oil which solidifies upon cooling. Crystallization from ether-petroleum ether. . .

DETD . . . reaction mixture is poured into water and extracted with diethyl ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.89 g. of a light yellow oil.

DETD . . . phase is acidified with hydrochloric acid, extracted with diethyl ether, and the organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.86 g. of a yellow oil.

DETD . . . solid precipitates and is collected. The residue is extracted with diethyl ether and the organic phase is washed with saturated **saline solution**, dried (MgSO.sub.4), and evaporated to yield additional solid. The combined solid material is crystallized from ether/pet ether (30.degree.-60.degree. C.degree.) to. . .

DETD . . . evaporated and the residue is dissolved in ether. The organic phase is washed with water, sodium bicarbonate solution, and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.371 g. of a light yellow oil.

DETD . . . is taken to dryness. The residue is taken up in ether and the ethereal solution is washed several times with **saline solution**, dried with anhydrous magnesium sulfate, and taken to dryness to afford the subject butyl ester.

DETD . . . mixture is poured into cold dilute hydrochloric acid and is extracted with ether. The combined ether extracts are washed with **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to give 700 g. of crude amber oil, which is distilled under. . .

DETD . . . hour, the solution is concentrated and the residue is dissolved in ether washed with water, dilute sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 415 g. of crude oil, which is distilled under vacuum to yield. . .

DETD . . . made acidic with dilute hydrochloric acid and is then extracted with ether. The ether extracts are washed with water and **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to 500 g. of crude yellow oil, which is distilled to give. . .

DETD . . . for fifteen minutes and then concentrated. The residue is dissolved in ether, washed with water, diluted sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 51 g. of crude oil. Distillation gives 40 g. (67%) b.p. 135.degree.-145.degree.. . .

DETD . . . for an additional 45 minutes the orange colored chloroform layer is separated and washed with dilute sodium bisulfite and saturated **saline solution**, dried over magnesium sulfate and taken to dryness in vacuo (bath temperature: 35.degree.-40.degree.) leaving an amber colored oil. A slurry. . .

DETD . . . of 18 hours. The mixture is poured into water and extracted with ether. The organic phase is washed with saturated **saline solution**, then water and is dried. Evaporation of solvents leaves subject product, which is purified by distillation. The combined organic phases. . .

L31 ANSWER 20 OF 26 USPATFULL
AN 78:47323 USPATFULL

TI Hydro substituted prostanoic acids and esters
IN Floyd, Jr., Middleton Brawner, Suffern, NY, United States
Weiss, Martin Joseph, Oradell, NJ, United States
Poletto, John Frank, Nanuet, NY, United States
Schaub, Robert Eugene, Upper Saddle River, NJ, United States
Bernady, Karel Francis, Belle Mead, NJ, United States
PA American Cyanamid Company, Stamford, CT, United States (U.S. corporation)
PI US 4110368 19780829
AI US 1977-806871 19770615 (5)
RLI Continuation-in-part of Ser. No. US 1975-540052, filed on 10 Jan 1975, now abandoned which is a division of Ser. No. US 1973-355349, filed on 27 Apr 1973, now patented, Pat. No. US 3875607 which is a division of Ser. No. US 1972-274768, filed on 24 Jul 1972, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Gerstl, Robert
CLMN Number of Claims: 8
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 8470
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM . . . hydroxycyclopentenones (CX) and (CXI) and the isomerization of (CX) to (CXI) may take place through the intermediacy of the 3,4-diol (**CIX**). It is also conceivable that isomerization of (CX) to (CXI) procedes via the epoxy derivative (CVIII) or the corresponding .alpha.-epoxide (CXIb); it is further conceivable that (CVIII) procedes to (CX) and (CXI) directly without the intermediacy of (**CIX**). Another possible intermediate for the isomerization of (CX) to (CXI) is the corresponding diene (CXIa). The preparation of (CXI) is. . .
DETD . . . aqueous phase is acidified with hydrochloric acid and extracted with ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 3.35 g. of a yellow oil.
DETD . . . minutes and the solution is then washed with cold water, cold 10% hydrochloric acid, cold sodium bicarbonate solution, and cold **saline solution**. The organic phase is dried (MgSO.sub.4) and concentrated to give an oil which solidifies upon cooling. Crystallization from ether-petroleum ether. . .
DETD . . . reaction mixture is poured into water and extracted with diethyl ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.89 g. of a light yellow oil.
DETD . . . phase is acidified with hydrochloric acid, extracted with diethyl ether, and the organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.86 g. of a yellow oil.
DETD . . . solid precipitates and is collected. The residue is extracted with diethyl ether and the organic phase is washed with saturated **saline solution**, dried (MgSO.sub.4), and evaporated to yield additional solid. The combined solid material is crystallized from ether/pet ether (30.degree.-60.degree. C.degree.) to. . .
DETD . . . evaporated and the residue is dissolved in ether. The organic phase is washed with water, sodium bicarbonate solution, and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.371 g. of a light yellow oil.
DETD . . . is taken to dryness. The residue is taken up in ether and the ethereal solution is washed several times with **saline solution**, dried with anhydrous magnesium sulfate, and taken to dryness to afford the subject butyl ester.
DETD . . . mixture is poured into cold dilute hydrochloric acid and is extracted with ether. The combined ether extracts are washed with **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to give 700 g. of crude amber oil, which is

distilled under. . .

DETD . . . hour, the solution is concentrated and the residue is dissolved in ether washed with water, dilute sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 415 g. of crude oil, which is distilled under vacuum to yield. . .

DETD . . . made acidic with dilute hydrochloric acid and is then extracted with ether. The ether extracts are washed with water and **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to 500 g. of crude yellow oil, which is distilled to give. . .

DETD . . . for fifteen minutes and then concentrated. The residue is dissolved in ether, washed with water, diluted sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 51 g. of crude oil. Distillation gives 40 g. (67%) b.p. 135.degree.-145.degree.. . .

DETD . . . for an additional 45 minutes the orange colored chloroform layer is separated and washed with dilute sodium bisulfite and saturated **saline solution**, dried over magnesium sulfate and taken to dryness in vacuo (bath temperature: 35.degree.-40.degree.) leaving an amber colored oil. A slurry. . .

DETD . . . of 18 hours. The mixture is poured into water and extracted with ether. The organic phase is washed with saturated **saline solution**, then water and is dried. Evaporation of solvents leaves subject product, which is purified by distillation. The combined organic phases. . .

L31 ANSWER 21 OF 26 USPATFULL

AN 77:63924 USPATFULL

TI Derivatives of 9-hydroxy-13-trans-prostenoic acid

IN Floyd, Jr., Middleton Brawner, Suffern, NY, United States
McGahren, William James, Demarest, NJ, United States
Schaub, Robert Eugene, Upper Saddle River, NJ, United States
Weiss, Martin Joseph, Oradell, NJ, United States

PA American Cyanamid Company, Stamford, CT, United States (U.S. corporation)

PI US 4061672 19771206

AI US 1976-652354 19760126 (5)

RLI Division of Ser. No. US 1976-480989, filed on 19 Jun 1976, now patented, Pat. No. US 3950406 Continuation-in-part of Ser. No. US 1972-274769, filed on 24 Jul 1972, now abandoned

DT Utility

FS Granted

EXNAM Primary Examiner: Gerstl, Robert

LREP Polyn, Denis A.

CLMN Number of Claims: 13

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 4762

SUMM . . . of this invention, involves derivatization of the keto function of the diastereomeric 9-oxoprostenoic acid or ester illustrated by (CVIII and **CIX**) with the usual type of ketone derivatizing agents bearing an optically active center. The resulting mixture of diastereomeric derivatives can. . . The individual diastereomeric keto derivatives, for example (CXIV and CXV), are then convertable to the individual 9-oxo diastereomers (CVIII) and (**CIX**) by any of the usual cleavage techniques, provided that they are sufficiently mild so as not to disturb the sensitive. . .

DETD . . . aqueous phase is acidified with hydrochloric acid and extracted with ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 3.35 g. of a yellow oil.

DETD . . . minutes and the solution is then washed with cold water, cold 10% hydrochloric acid, cold sodium bicarbonate solution, and cold **saline solution**. The organic phase is dried

(MgSO.sub.4) and concentrated to give an oil which solidifies upon cooling. Crystallization from ether-petroleum ether. . .

DETD . . . reaction mixture is poured into water and extracted with diethyl ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.89 g. of a light yellow oil.

DETD . . . phase is acidified with hydrochloric acid, extracted with diethyl ether, and the organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.86 g. of a yellow oil.

DETD . . . solid precipitates and is collected. The residue is extracted with diethyl ether and the organic phase is washed with saturated **saline solution**, dried (MgSO.sub.4), and evaporated to yield additional solid. The combined solid material is crystallized from ether/pet ether (30.degree.-60.degree. C) to. . .

DETD . . . evaporated and the residue is dissolved in ether. The organic phase is washed with water, sodium bicarbonate solution, and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.371 g. of a light yellow oil.

DETD . . . is taken to dryness. The residue is taken up in ether and the ethereal solution is washed several times with **saline solution**, dried with anhydrous magnesium sulfate, and taken to dryness to afford the subject butyl ester.

DETD . . . mixture is poured into cold dilute hydrochloric acid and is extracted with ether. The combined ether extracts are washed with **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to give 700 g. of crude amber oil, which is distilled under. . .

DETD . . . hour, the solution is concentrated and the residue is dissolved in ether washed with water, dilute sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 415 g. of crude oil, which is distilled under vacuum to yield. . .

DETD . . . made acidic with dilute hydrochloric acid and is then extracted with ether. The ether extracts are washed with water and **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to 500 g. of crude yellow oil, which is distilled to give. . .

DETD . . . for fifteen minutes and then concentrated. The residue is dissolved in ether, washed with water, diluted sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 51 g. of crude oil. Distillation gives 40 g. (67%) b.p. 135-145. . .

DETD . . . for an additional 45 minutes the orange colored chloroform layer is separated and washed with dilute sodium bisulfite and saturated **saline solution**, dried over magnesium sulfate and taken to dryness in vacuo (bath temperature: 35.degree.-40.degree.) leaving an amber colored oil. A slurry. . .

L31 ANSWER 22 OF 26 USPATFULL

AN 77:58794 USPATFULL

TI Hydroxylated 15-deoxy derivatives of 9-hydroxyl-13-trans-prostenoic acid

IN Floyd, Jr., Middleton Brawner, Suffern, NY, United States
McGahren, William James, Demarest, NJ, United States
Schaub, Robert Eugene, Upper Saddle River, NJ, United States
Weiss, Martin Joseph, Oradell, NJ, United States

PA American Cyanamid Company, Stamford, CT, United States (U.S. corporation)

PI US 29469 19771108
US 3950406 19760413 (Original)

AI US 1976-682691 19760503 (5)
US 1974-480989 19740619 (Original)

RLI Continuation-in-part of Ser. No. US 1972-274769, filed on 24 Jul 1972, now abandoned

DT Reissue

FS Granted
EXNAM Primary Examiner: Gerstl, Robert
LREP Polyn, Denis A.
CLMN Number of Claims: 39
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 4909
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . of this invention, involves derivatization of the keto function of the diastereomeric 9-oxo-prostenoic acid or ester illustrated by (CVIII and **CIX**) with the usual type of ketone derivatizing agents bearing an optically active center. The resulting mixture of diastereomeric derivatives can. . . The individual diastereomeric keto derivatives, for example (CXIV) and (CXV), are then convertable to the individual 9-oxo diastereomers (CVIII) and (**CIX**) by any of the usual cleavage techniques, provided that they are sufficiently mild so as not to disturb the sensitive. . .

SUMM . . . aqueous phase is acidified with hydrochloric acid and extracted with ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 3.35 g. of a yellow oil.

SUMM . . . minutes and the solution is then washed with cold water cold 10% hydrochloric acid, cold sodium bicarbonate solution, and cold **saline solution**. The organic phase is dried (MgSO.sub.4) and concentrated to give an oil which solidifies upon cooling. Crystallization from ether-petroleum ether. . .

SUMM . . . reaction mixture is poured into water and extracted with diethyl ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.89 g. of a light yellow oil.

SUMM . . . phase is acidified with hydrochloric acid, extracted with diethyl ether, and the organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.86 g. of a yellow oil.

SUMM . . . solid precipitates and is collected. The residue is extracted with diethyl ether and the organic phase is washed with saturated **saline solution**, dried (MgSO.sub.4), and evaporated to yield additional solid. The combined solid material is crystallized from ether/pet ether (30.degree.-60.degree. C) to. . .

SUMM . . . evaporated and the residue is dissolved in ether. The organic phase is washed with water, sodium bicarbonate solution, and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.371 g. of light yellow oil.

SUMM . . . is taken to dryness. The residue is taken up in ether and the ethereal solution is washed several times with **saline solution**, dried with anhydrous magnesium sulfate, and taken to dryness to afford the subject butyl ester.

SUMM . . . mixture is poured into cold dilute hydrochloric acid and is extracted with ether. The combined ether extracts are washed with **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to give 700 g. of crude amber oil, which is distilled under. . .

SUMM . . . hour, the solution is concentrated and the residue is dissolved in ether washed with water, dilute sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 415 g. of crude oil, which is distilled under vacuum to yield. . .

SUMM . . . made acidic with dilute hydrochloric acid and is then extracted with ether. The ether extracts are washed with water and **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to 500 g. of crude yellow oil, which is distilled to give. . .

SUMM . . . for 15 minutes and then concentrated. The residue is dissolved in ether, washed with water, diluted sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and

concentrated to give 51 g. of crude oil. Distillation gives 40 g. (67%) b.p. 135-145. . .

SUMM . . . for an additional 45 minutes the orange colored chloroform layer is separated and washed with dilute sodium bisulfite and saturated **saline solution**, dried over magnesium sulfate and taken to dryness in vacuo (bath temperature: 35.degree.-40.degree.) leaving an amber colored oil. A slurry. . .

L31 ANSWER 23 OF 26 USPATFULL

AN 77:7251 USPATFULL

TI Novel 3-triphenylmethoxy-1-alkynes, 3-triphenylmethoxy-1-trans-alkenyl-dialkyl-alanes, and lithium 3-triphenyl-methoxy-1-trans-alkenyl-dialkyl-alanates

IN Bernady, Karel Francis, Suffern, NY, United States
Floyd, Jr., Middleton Brawner, Suffern, NY, United States
Poletto, John Frank, Nanuet, NY, United States
Schaub, Robert Eugene, Upper Saddle River, NJ, United States
Weiss, Martin Joseph, Oradell, NJ, United States

PA American Cyanamid Company, Stamford, CT, United States (U.S. corporation)

PI US 4007210 19770208

AI US 1975-613776 19750918 (5)

RLI Division of Ser. No. US 1973-355350, filed on 27 Apr 1973, now patented, Pat. No. US 3932479

DT Utility

FS Granted

EXNAM Primary Examiner: Sneed, Helen M. S.

LREP Conroy, Jr., Edward A.

CLMN Number of Claims: 13

ECL Exemplary Claim: 1,7

DRWN No Drawings

LN.CNT 8681

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . hydroxycyclopentenones (CX) and (CXI) and the isomerization of (CX) to (CXI) may take place through the intermediacy of the 3,4-diol (**CIX**). It is also conceivable that isomerization of (CX) to (CXI) procedes via the epoxy derivative (CVIII) or the corresponding .alpha.-epoxide (CXIb); it is further conceivable that (CVIII) procedes to (CX) and (CXI) directly without the intermediacy of (**CIX**). Another possible intermediate for the isomerization of (CX) to (CXI) is the corresponding diene (CXIa). The preparation of (CXI) is. . .

DETD . . . aqueous phase is acidified with hydrochloric acid and extracted with ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 3.35 g. of a yellow oil.

DETD . . . minutes and the solution is then washed with cold water, cold 10% hydrochloric acid, cold sodium bicarbonate solution, and cold **saline solution**. The organic phase is dried (MgSO.sub.4) and concentrated to give an oil which solidifies upon cooling. Crystallization from ether-petroleum ether. . .

DETD . . . reaction mixture is poured into water and extracted with diethyl ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.89 g. of a light yellow oil.

DETD . . . phase is acidified with hydrochloric acid, extracted with diethyl ether, and the organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.86 g. of a yellow oil.

DETD . . . solid precipitates and is collected. The residue is extracted with diethyl ether and the organic phase is washed with saturated **saline solution**, dried (MgSO.sub.4), and evaporated to yield additional solid. The combined solid material is crystallized from ether/pet ether (30.degree.-60.degree. C) to. . .

DETD . . . evaporated and the residue is dissolved in ether. The organic

phase is washed with water, sodium bicarbonate solution, and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.371 g. of a light yellow oil.

DETD . . . is taken to dryness. The residue is taken up in ether and the ethereal solution is washed several times with **saline solution**, dried with anhydrous magnesium sulfate, and taken to dryness to afford the subject butyl ester.

DETD . . . mixture is poured into cold dilute hydrochloric acid and is extracted with ether. The combined ether extracts are washed with **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to give 700 g. of crude amber oil, which is distilled under. . .

DETD . . . hour, the solution is concentrated and the residue is dissolved in ether washed with water, dilute sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 415 g. of crude oil, which is distilled under vacuum to yield. . .

DETD . . . made acidic with dilute hydrochloric acid and is then extracted with ether. The ether extracts are washed with water and **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to 500 g. of crude yellow oil, which is distilled to give. . .

DETD . . . for fifteen minutes and then concentrated. The residue is dissolved in ether, washed with water, diluted sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 51 g. of crude oil. Distillation gives 40 g. (67%) b.p. 135.degree.-145.degree.. . .

DETD . . . for an additional 45 minutes the orange colored chloroform layer is separated and washed with dilute sodium bisulfite and saturated **saline solution**, dried over magnesium sulfate and taken to dryness in vacuo (bath temperature: 35.degree.-40.degree.) leaving an amber colored oil. A slurry. . .

DETD . . . of eighteen hours. The mixture is poured into water and extracted with ether. The organic phase is washed with saturated **saline solution**, then water and is dried. Evaporation of solvents leaves subject product, which is purified by distillation. The combined organic phases. . .

L31 ANSWER 24 OF 26 USPATFULL

AN 76:36698 USPATFULL

TI 2-Substituted-3,4-epoxycyclopentan-1-ones, and 2-substituted-3,4-epoxycyclopentan-1-ols

IN Bernady, Karel Francis, Suffern, NY, United States
Floyd, Jr., Middleton Brawner, Suffern, NY, United States
Poletto, John Frank, Nanuet, NY, United States
Schaub, Robert Eugene, Upper Saddle River, NJ, United States
Weiss, Martin Joseph, Oradell, NJ, United States

PA American Cyanamid Company, Stamford, CT, United States (U.S. corporation)

PI US 3966773 19760629

AI US 1975-603466 19750811 (5)

RLI Division of Ser. No. US 1973-355101, filed on 27 Apr 1973, now abandoned

DT Utility

FS Granted

EXNAM Primary Examiner: Milestone, Norma S.

LREP Conroy, Jr., Edward A.

CLMN Number of Claims: 3

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 8587

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . hydroxycyclopentenones (CX) and (CXI) and the isomerization of (CX) to (CXI) may take place through the intermediacy of the 3,4-diol (**CIX**). It is also conceivable that isomerizaton of (CX) to (CXI) procedes via the epoxy derivative (CVIII) or the corresponding

.alpha.-epoxide (CXIb); it is further conceivable that (CVIII) procedes to (CX) and (CXI) directly without the intermediacy of (**CIX**). Another possible intermediate for the isomerization of (CX) to (CXI) is the corresponding diene (CXIa). The preparation of (CXI) is. . .

DETD . . . aqueous phase is acidified with hydrochloric acid and extracted with ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4) and evaporated to give 3.35 g. of a yellow oil.

DETD . . . minutes and the solution is then washed with cold water, cold 10% hydrochloric acid, cold sodium bicarbonate solution, and cold **saline solution**. The organic phase is dried (MgSO.sub.4) and conentrated to give an oil which solidifies upon cooling. Crystallization from ether-petroleum ether. . .

DETD . . . reaction mixture is poured into water and extracted with diethyl ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.89 g. of a light yellow oil.

DETD . . . phase is acidified with hydrochloric acid, extracted with diethyl ether, and the organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.86 g. of a yellow oil.

DETD . . . a solid precipitates and is collected. Theresidue is extracted with diethyl ether and the organic phase is washed with saturated **saline solution**, dried (MgSO.sub.4), and evaporated to yield additional solid. The combined solid material is crystallized from ether/pet ether (30.degree.-60.degree.C) to yield. . .

DETD . . . evaporated and the residue is dissolved in ether. The organic phase is washed with water, sodium bicarbonate solution, and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.371 g. of a light yellow oil.

DETD . . . is taken to dryness. The residue is taken up in ether and the ethereal solution is washed several times with **saline solution**, dried with anhydrous magnesium sulfate, and taken to dryness to afford the subject butyl ester.

DETD . . . mixture is poured into cold dilute hydrochloric acid and is extracted with ether. The combined ether extracts are washed with **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to give 700 g. of crude amber oil, which is distilled under. . .

DETD . . . hour, the solution is concentrated and the residue is dissolved in ether washed with water, dilute sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 415 g. of crude oil, which is distilled under vacuum to yield. . .

DETD . . . made acidic with dilute hydrochloric acid and is then extracted with ether. The ether extracts are washed with water and **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to 500 g. of crude yellow oil, which is distilled to give. . .

DETD . . . for fifteen minutes and then concentrated. The residue is dissolved in ether, washed with water, diluted sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 51 g. of crude oil. Distillation gives 40 g. (67%) b.p. 135.degree.-145.degree.. . .

DETD . . . for an additional 45 minutes the orange colored chloroform layer is separated and washed with dilute sodium bisulfite and saturated **saline solution** dried over magnesium sulfate and taken to dryness in vacuo (bath temperature: 35.degree.-40.degree.) leaving an amber colored oil. A slurry. . .

DETD . . . of eighteen hours. The mixture is poured into water and extracted with ether. The organic phase is washed with saturated **saline solution**, then water and is dried. Evaporation of solvents leaves subject product, which is purified by distillation. The combined organic phases. . .

L31 ANSWER 25 OF 26 USPATFULL
AN 76:20228 USPATFULL
TI Hydroxylated 15-deoxy derivatives of 9-hydroxy-13-trans-prostenoic acid
IN Floyd, Jr., Middleton Brawner, Suffern, NY, United States
McGahren, William James, Demarest, NJ, United States
Schaub, Robert Eugene, Upper Saddle River, NJ, United States
Weiss, Martin Joseph, Oradell, NJ, United States
PA American Cyanamid Company, Stamford, CT, United States (U.S. corporation)
PI US 3950406 19760413
AI US 1974-480989 19740619 (5)
RLI Continuation-in-part of Ser. No. US 1972-274769, filed on 24 Jul 1972, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Gerstl, Robert
LREP Conroy, Jr., Edward A.
CLMN Number of Claims: 33
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 4879
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM . . . of this invention, involves derivatization of the keto function of the diastereomeric 9-oxoprostenoic acid or ester illustrated by (CVIII and **CIX**) with the usual type of ketone derivatizing agents bearing an optically active center. The resulting mixture of diastereomeric derivatives can. . . The individual diastereomeric keto derivatives, for example (CXIV) and CXV), are then convertable to the individual 9-oxo diastereomers (CVIII) and (**CIX**) by any of the usual cleavage techniques, provided that they are sufficiently mild so as not to disturb the sensitive. . .
DETD . . . aqueous phase is acidified with hydrochloric acid and extracted with ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 3.35 g. of a yellow oil.
DETD . . . minutes and the solution is then washed with cold water cold 10% hydrochloric acid, cold sodium bicarbonate solution, and cold **saline solution**. The organic phase is dried (MgSO.sub.4) and concentrated to give an oil which solidifies upon cooling. Crystallization from ether-petroleum ether. . .
DETD . . . reaction mixture is poured into water and extracted with diethyl ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.89 g. of a light yellow oil.
DETD . . . phase is acidified with hydrochloric acid, extracted with diethyl ether, and the organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.86 g. of a yellow oil.
DETD . . . solid precipitates and is collected. The residue is extracted with diethyl ether and the organic phase is washed with saturated **saline solution**, dried (MgSO.sub.4), and evaporated to yield additional solid. The combined solid material is crystallized from ether/pet ether (30.degree.-60.degree.C.degree.) to yield. . .
DETD . . . evaporated and the residue is dissolved in ether. The organic phase is washed with water, sodium bicarbonate solution, and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.371 g. of light yellow oil.
DETD . . . is taken to dryness. The residue is taken up in ether and the ethereal solution is washed several times with **saline solution**, dried with anhydrous magnesium sulfate, and taken to dryness to afford the subject butyl ester.
DETD . . . mixture is poured into cold dilute hydrochloric acid and is extracted with ether. The combined ether extracts are washed with **saline solution**, dried over magnesium sulfate, and

concentrated in vacuo to give 700 g. of crude amber oil, which is distilled under. . .

DETD . . . hour, the solution is concentrated and the residue is dissolved in ether washed with water, dilute sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 415 g. of crude oil, which is distilled under vacuum to yield. . .

DETD . . . made accidic with dilute hydrochloric acid and is then extracted with ether. The ether extracts are washed with water and **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to 500 g. of crude yellow oil, which is distilled to give. . .

DETD . . . for 15 minutes and then concentrated. The residue is dissolved in ether, washed with water, diluted sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 51 g. of crude oil. Distillation gives 40 g. (67%) b.p. 135-145. . .

DETD . . . for an additional 45 minutes the orange colored chloroform layer is separated and washed with dilute sodium bisulfite and saturated **saline solution**, dried over magnesium sulfate and taken to dryness in vacuo (bath temperature: 35.degree.-40.degree.) leaving an amber colored oil. A slurry. . .

L31 ANSWER 26 OF 26 USPATFULL

AN 76:2220 USPATFULL

TI Lithium 3-triphenylmethoxy-1-trans-alkenyl-dialkyl alanates

IN Bernady, Karel Francis, Suffern, NY, United States
Floyd, Jr., Middleton Brawner, Suffern, NY, United States
Poletto, John Frank, Nanuet, NY, United States
Schaub, Robert Eugene, Upper Saddle River, NJ, United States
Weiss, Martin Joseph, Oradell, NJ, United States

PA American Cyanamid Company, Stamford, CT, United States (U.S. corporation)

PI US 3932479 19760113

AI US 1973-355350 19730427 (5)

DT Utility

FS Granted

EXNAM Primary Examiner: Sneed, Helen M. S.

LREP Conroy, Jr., Edward A.

CLMN Number of Claims: 9

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 7972

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . hydroxycyclopentenones (CX) and (CXI) and the isomerization of (CX) to (CXI) may take place through the intermediacy of the 3,4-diol (**CIX**). It is also conceivable that isomerization of (CX) to (CXI) procedes via the epoxy derivative (CVIII) or the corresponding .alpha.-epoxide (CXIb); it is further conceivable that (CVIII) procedes to (CX) and (CXI) directly without the intermediacy of (**CIX**). Another possible intermediate for the isomerization of (CX) to (CXI) is the corresponding diene (CXIa). The preparation of (CXI) is. . .

DETD . . . aqueous phase is acidified with hydrochloric acid and extracted with ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 3.35 g. of a yellow oil.

DETD . . . minutes and the solution is then washed with cold water, cold 10% hydrochloric acid, cold sodium bicarbonate solution, and cold **saline solution**. The organic phase is dried (MgSO.sub.4) and concentrated to give an oil which solidifies upon cooling. Crystallization from ether-petroleum ether. . .

DETD . . . reaction mixture is poured into water and extracted with diethyl ether. The organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to

give 1.89 g. of a light yellow oil.

DETD . . . phase is acidified with hydrochloric acid, extracted with diethyl ether, and the organic phase is washed with water and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.86 g. of a yellow oil.

DETD . . . solid precipitates and is collected. The residue is extracted with diethyl ether and the organic phase is washed with saturated **saline solution**, dried (MgSO.sub.4), and evaporated to yield additional solid. The combined solid material is crystallized from ether/pet ether (30.degree.-60.degree.C.degree.) to yield. . .

DETD . . . evaporated and the residue is dissolved in ether. The organic phase is washed with water, sodium bicarbonate solution, and saturated **saline solution**, dried (MgSO.sub.4), and evaporated to give 1.371 g. of a light yellow oil.

DETD . . . is taken to dryness. The residue is taken up in ether and the ethereal solution is washed several times with **saline solution**, dried with anhydrous magnesium sulfate, and taken to dryness to afford the subject butyl ester.

DETD . . . mixture is poured into cold dilute hydrochloric acid and is extracted with ether. The combined ether extracts are washed with **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to give 700 g. of crude amber oil, which is distilled under. . .

DETD . . . hour, the solution is concentrated and the residue is dissolved in ether washed with water, dilute sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 415 g. of crude oil, which is distilled under vacuum to yield. . .

DETD . . . made acidic with dilute hydrochloric acid and is then extracted with ether. The ether extracts are washed with water and **saline solution**, dried over magnesium sulfate, and concentrated in vacuo to 500 g. of crude yellow oil, which is distilled to give. . .

DETD . . . for 15 minutes and then concentrated. The residue is dissolved in ether, washed with water, diluted sodium bicarbonate solution and **saline solution**, dried over magnesium sulfate and concentrated to give 51 g. of crude oil. Distillation gives 40 g. (67%) b.p. 135.degree.-145.degree.. . .

DETD . . . for an additional 45 minutes the orange colored chloroform layer is separated and washed with dilute sodium bisulfite and saturated **saline solution**, dried over magnesium sulfate and taken to dryness in vacuo (bath temperature: 35.degree.-40.degree.) leaving an amber colored oil. A slurry. . .

DETD . . . of 18 hours. The mixture is poured into water and extracted with ether. The organic phase is washed with saturated **saline solution**, then water and is dried. Evaporation of solvents leaves subject product, which is purified by distillation. The combined organic phases. . .

L32 ANSWER 1 OF 14 USPATFULL
AN 2002:336940 USPATFULL
TI Hydrogen peroxide disinfectant with increased activity
IN Ramirez, Jose A., Mississauga, CANADA
Rochon, Michael J., Caledon, CANADA
PI US 2002192297 A1 20021219
AI US 2001-28373 A1 20011228 (10)
RLI Continuation-in-part of Ser. No. US 1999-356345, filed on 19 Jul 1999, GRANTED, Pat. No. US 6346279
PRAI US 1998-112047P 19981214 (60)
DT Utility
FS APPLICATION
LREP CLARK & BRODY, Suite 600, 1750 K Street, NW, Washington, DC, 20006

CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1031
SUMM . . . various surfactants are known. For example, Winterton et al. discloses, in U.S. Pat. No. 5,523,012, a buffered disinfecting solution for **contact lenses**, which has from about 0.1% to about 1.0% of an ocularly compatible surfactant. Winterton discloses that, in one experiment, addition. . .
DETD . . . II, respectively. The results were compiled and are shown in Table VI below.
TABLE VI

Single-factor experiments with 1% and 0.55% **hydrogen peroxide**. Numbers shown under germicidal results are Log.sub.10 reduction in the number of viable organisms. NM: not measurable due to substantial growth -. . . 0.15 0.15 0.15 0.27 0.15

	0.11	0.11	0.11	0.20	0.11
BRIQUEST	0.47	0.47	0.47	--	0.48
ADPA-60AW	0.28	0.28	0.28	--	0.29
(60% **HEDP**)					
C6 DOWFAX	0.18	0.18	0.18	--	0.18
Hydrotrope (45%)	0.08	0.08	0.08	--	0.08
BIOSOFT S-100	0.18	0.18	--	0.18	0.18
(98% DDBSA)	0.18. . .				

DETD . . . Table VII below.
TABLE VII

FORMULATION			
INGREDIENT [% w/w]	B1 % w/w	B2 % w/w	B3 % w/w
Briquest ADPA-60AW (60% **HEDP**)	0.48	--	--
	0.29	--	--
Briquest 301-50A (50% ATMP)	--	0.58	--
	--	0.29	--
STPP (90% sodium tripolyphosphate)	--	--. . . --	
-- 0.29			
C6 Dowfax Hydrotrope (45%)	0.18	0.18	0.18
	0.08	0.08	0.08
Alfonic L610-3.5 (100% AE)	0.05	0.05	0.05
	0.05	0.05	0.05
Hydrogen Peroxide (50%)	1.10	1.10	
1.10			
	0.55	0.55	0.55
Biosoft S-100 (98% DDBSA)	0.18	0.18	0.18
	0.18	0.18	0.18
pH	about 2	about 2. . .	

DETD [0115] Formulations E1 to E5 containing 0.55 wt./wt. % **hydrogen peroxide**, were tested against the non-enveloped polio virus ATCC VR-192 in accordance with the second test described under Example I. The. . . 0.15 0.15 0.15 --

acid (75%)	0.11	0.11	0.11	0.11	--
Briquest	--	0.48	0.48	0.48	0.48
ADPA-60AW	--	0.29	0.29	0.29	0.29
(60% **HEDP**)					
C6 Dowfax	0.18	--	0.18	0.18	0.18
Hydrotrope (45%)	0.08	--	0.08	0.08	0.08
Alfonic L610-3.5	0.05	0.05	--	0.05	0.05
(100% AE)	0.05. . .				

L32 ANSWER 2 OF 14 USPATFULL
AN 2002:258484 USPATFULL
TI Hydrogen peroxide disinfectant with increased activity
IN Rochon, Michael J., Caledon, CANADA
PI US 2002142051 A1 20021003
AI US 2002-67809 A1 20020208 (10)
RLI Continuation of Ser. No. US 1999-356345, filed on 19 Jul 1999, GRANTED, Pat. No. US 6346279
PRAI US 1998-112047P 19981214 (60)
DT Utility
FS APPLICATION
LREP Clark & Brody, Suite 600, 1750 K Street, NW, Washington, DC, 20006
CLMN Number of Claims: 45
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 691
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM . . . various surfactants are known. For example, Winterton et al. discloses, in U.S. Pat. No. 5,523,012, a buffered disinfecting solution for **contact lenses**, which has from about 0.1% to about 1.0% of an ocularly compatible surfactant. Winterton discloses that, in one experiment, addition. . .
SUMM [0018] It has now been found that addition of phosphorus-based acids and anionic surfactants greatly enhance the activity of aqueous **hydrogen peroxide** solutions. The phosphorus-based acids are inorganic acids or organic acids. Especially preferred are phosphoric acid (H.sub.3PO.sub.4) and phosphonic acids having 1 to 5 phosphonic acid groups. Particularly preferred phosphonic acids are amino tri(methylene phosphonic acid), **1-hydroxyethylidene-1,1,-diphosphonic acid**, diethylenetriaminepenta-(methylene phosphonic acid), 2-hydroxyethylimino bis(methylene phosphonic acid), and ethylene diamine tetra(methylene phosphonic acid). Each may be used alone, but mixtures. . . from 0.05 to 8.0 wt./wt. % of the solution. The lower concentrations are preferable for solutions with lower concentrations of **hydrogen peroxide**. The pH of the solutions are from 1 to 7, and even more particularly from about 1 to about 3.

L32 ANSWER 3 OF 14 USPATFULL
AN 2002:235098 USPATFULL
TI Stabilized hyrogen peroxide solutions
IN Tsao, Fu-Pao, Lawrenceville, GA, UNITED STATES
PI US 2002127281 A1 20020912
AI US 2001-963732 A1 20010926 (9)
PRAI US 2000-236251P 20000928 (60)
DT Utility
FS APPLICATION
LREP Thomas Hoxie, Novartis Corporation, Patent and Trademark Dept., 564 Morris Avenue, Summit, NJ, 07901-1027
CLMN Number of Claims: 16
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 504
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB . . . preservative. Such solutions are effectively stabilized at pH>8 by the use of certain biocompatible organophophorous compounds as chelating stabilizers. These **ophthalmologically** acceptable compositions are especially useful in buffered saline for **eye care** solutions either with or without **ophthalmic** medicinal agents.
SUMM . . . organophophorous compounds as stabilizers for such solutions at high pH. These biocompatible compositions are especially useful in buffered saline for **eye care** solutions.
SUMM [0003] **Contact lenses** accumulate dirt, proteinaceous

matter, and microorganisms, all of which can affect the health of the eye if allowed to accumulate. . . must be cleaned and disinfected regularly and preferably daily. Hydrogen peroxide is recognized as a safe and efficacious disinfectant for **contact lenses** and **contact lens** disinfecting solutions that contain hydrogen peroxide are well known.

SUMM . . . dilute aqueous hydrogen peroxide solutions is greatly accelerated. PCT patent WO98/04496 discloses stabilized and buffered solutions of hydrogen peroxide for **contact lens** disinfection in which the solution is maintained in the pH range of about 5.0 to 6.5 by the use of certain phosphonic acids and derivatives thereof. Also, British Patent No. 1,500,707 discloses a **contact lens** sterilizing solution using hydrogen peroxide with 200 to 2000 ppm of a phosphate [pyrophosphate] stabilizer at a pH of 4.5.. . .

SUMM [0005] U.S. Pat. No. 5,725,887 discloses a preservative for **ophthalmic** solutions having a low hydrogen peroxide concentration in the presence of various phosphonic acid stabilizers. However, the stabilizing effect of. . .

SUMM [0006] Therefore, there exists a need for preserved **contact lens** care solutions with improved stability at the higher pH required for **ophthalmic** compatibility, and that such stabilized solutions contain only trace quantities of hydrogen peroxide or peroxy compounds that generate hydrogen peroxide. It must be recognized that all components of such systems must be compatible with the other ingredients common to **ophthalmic** solutions and with a variety of **ophthalmic** medicinal agents.

SUMM [0007] An objective of the present invention is to provide a means for stabilizing **contact lens** care solutions that contain low levels of hydrogen peroxide. Such solutions are to be free of materials that are not. . . greater than 8. A further objective of the present invention is to provide a means for increasing the shelf-life of **ophthalmic** solutions which contain hydrogen peroxide and ocularly compatible components. A still further objective of the present invention is to provide preserved **ophthalmic** drug formulations that are stable and useable at pH greater than 8. These objectives are realized in the present invention. . .

SUMM [0008] Another advantage of using trace amounts of hydrogen peroxide in the **ophthalmic** solutions of the present invention is that the low concentration of hydrogen peroxide, especially when concentrations are less than 100. . .

SUMM . . . to the use of hydrogen peroxide or a source of hydrogen peroxide in trace amounts as a preservative for an **ophthalmic** solution and of stabilizing said solution above about pH 8 by the addition of chelating stabilizers. A surprising aspect this invention is the clinically observed comfort to the eye of some **ophthalmic** solutions with pH as high as about 9.5. This demonstrates that stablized **ophthalmic** solutions preserved with trace amounts of hydrogen peroxide at pH significantly greater than 8 are suitable for use in the. . .

SUMM [0010] Trace amounts of peroxy compounds stabilized with a **hydrogen peroxide** stabilizer, especially diethylene triamine penta(methylene phosphonic acid) or **1-hydroxyethylidene-1,1-diphosphonic acid** may be utilized as a preservative for drugs, eyewashes, or other solutions containing an active ingredient designed to be used. . . may be used in the ocular environment. Furthermore, the preservative according to the present invention may be used in any **ophthalmic** solution as long as the active ingredient in that solution is compatible with trace amounts of the peroxy compounds. Also, virtually any peroxy compound may be used so long as it is hydrolyzed in water to produce **hydrogen peroxide**. Examples of such sources of **hydrogen peroxide**, which provide an effective resultant amount of **hydrogen peroxide**, include

sodium perborate decahydrate, **sodium peroxide** and urea peroxide. It has been found that peracetic acid, an organic peroxy compound, cannot be stabilized utilizing the present system. **Hydrogen peroxide** concentrations from about 2 ppm to about 1000 ppm are useful in the present invention. Therefore, peroxy compounds that generate **hydrogen peroxide** from about 2 ppm to about 1000 ppm are useful in the present invention. More preferably, the concentration of **hydrogen peroxide** from is about 10 ppm to about 1000 ppm.

SUMM . . . mentioned to which the invention is applicable. However, when the solution is to come in contact with a hydrogel soft **contact lens**, stannate stabilizers are to be avoided as they tend to "cloud" the lens material. Preferably, the concentration of the stabilizer. . .

SUMM . . . hydroxide. The pH of the stabilized solution presents an advantage over the prior art since the pH of most existing **ophthalmic** solutions containing hydrogen peroxide is relatively low, e.g. less than 7. It has been observed clinically that of some **ophthalmic** solutions of this invention with pH above 8.0 exhibit a high degree of comfort to the eye. Therefore a hydrogen. . .

SUMM [0020] The pH values of some commercially available hydrogen peroxide products for **contact lenses** are listed as follows:

Name of the Product	pH	wt. % H.sub.2O.sub.2
AOSept .TM. (CIBA Vision)	6.3-6.6	3.3-3.5

. . .

SUMM [0021] Trace amounts of peroxy compounds stabilized with a **hydrogen peroxide** stabilizer, especially diethylene triamine penta(methylene phosphonic acid) or salts thereof or **1-hydroxyethylidene-1,1-diphosphonic acid** or salts thereof may be utilized as a preservative for drugs, eyewashes, or other solutions containing an active ingredient designed. . .

SUMM [0022] The full scope of the present invention includes solutions containing medicinally active **ophthalmic** agents as well as solutions that are free of containing medicinally active **ophthalmic** agents. The former group of solutions contain at least one medicinal agent for application directly to the eye. The latter group includes, but is not limited to, solutions such as preserved saline, preserved **contact lens** cleaning solutions, preserved **contact lens** stabilizing solutions, preserved wetting solutions, and preserved lubricating solutions.

SUMM [0023] The preservative according to the present invention may be used in any **ophthalmic** solution as long as the active ingredient in that solution is compatible with trace amounts of the peroxy compounds. It. . .

SUMM [0031] It should be emphasized that the present invention is also applicable beyond the field of **ophthalmic** device disinfection and preservation and may be used anywhere that a preserved solution would be useful, provided only that the material treated is not adversely affected by the composition components. For these purposes the compositions need not be **ophthalmic** device compatible or even pharmaceutically acceptable. The only important feature in such a case is that the solution contain a. . .

DETD [0035] This example presents results of a clinical study in which a typical **ophthalmic** saline solutions is prepared with pH ranging for 7.50 to 9.42 are evaluated for comfort in the eyes. This solution. . .

DETD [0038] The data in Table III clearly demonstrates that **ophthalmic** solutions with pH as high as 9.4 are comfortable in

the human eye. This example is also significant in that it demonstrates the utility of including acid sensitive components such as sodium bicarbonates in **ophthalmic** solutions intended for use directly in the eye.

CLM What is claimed is:

8. The preserved aqueous solution of claim 1 wherein said **hydrogen peroxide** source is selected from the group consisting of **hydrogen peroxide**, **sodium perborate**, **sodium peroxide** and urea peroxide, and a said **hydrogen peroxide** stabilizer is diethylene triamine penta(methylenephosphonic acid) or **1-hydroxyethylidene-1,1-diphosphonic acid**, or a water-soluble salt thereof.

10. A preserved **ophthalmic** formulation according to claim 9 wherein the source of hydrogen peroxide is sodium perborate and the hydrogen peroxide stabilizer is. . .

11. A preserved **ophthalmic** drug formulation comprising: (a) an effective amount of an **ophthalmic** medicinal agent which is compatible with hydrogen peroxide; (b) a source of hydrogen peroxide for providing hydrogen peroxide in an. . .

12. The preserved **ophthalmic** drug formulation of claim 11 wherein said pH is between 8.0 and 9.5.

13. The preserved **ophthalmic** drug formulation of claim 11 wherein the hydrogen peroxide is provided in an amount from 2 ppm to 100 ppm.

. . .

14. The preserved **ophthalmic** drug formulation of claim 11 wherein said **hydrogen peroxide** source is selected from the group consisting of **hydrogen peroxide**, **sodium perborate**, **sodium peroxide** and urea peroxide, and a said **hydrogen peroxide** stabilizer is diethylene triamine penta(methylenephosphonic acid) or **1-hydroxyethylidene-1,1-diphosphonic acid**, or water-soluble salts thereof.

15. The preserved **ophthalmic** drug formulation of claim 14 wherein said effective amount of diethylene triamine penta(methylenephosphonic acid) or water-soluble salt thereof, is from. . .

16. The preserved **ophthalmic** drug formulation of claim 11 wherein said hydrogen peroxide source is sodium perborate and a said hydrogen peroxide stabilizer is. . .

L32 ANSWER 4 OF 14 USPATFULL

AN 2002:230832 USPATFULL

TI Simultaneous cleaning and decontaminating compositions and methods

IN Huth, Stanley William, Newport Beach, CA, United States
Yu, Zhi-Jian, Irvine, CA, United States

PA Metrex Research Corporation, Orange, CA, United States (U.S. corporation)

PI US 6448062 B1 20020910

AI US 1999-430398 19991029 (9)

RLI Continuation-in-part of Ser. No. US 1998-183186, filed on 30 Oct 1998, now abandoned

DT Utility

FS GRANTED

EXNAM Primary Examiner: Redding, David A.

LREP Wood, Herron & Evans, L.L.P.

CLMN Number of Claims: 4

ECL Exemplary Claim: 1

DRWN 1 Drawing Figure(s); 1 Drawing Page(s)

LN.CNT 3084

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . and some fungi, but it cannot be relied upon to kill resistant microorganisms such as tubercle bacilli or bacterial spores. **Contact lenses** are included in the class of devices which require low-level disinfection prior to reuse. Common low-level disinfectants for **contact lens** disinfection include acidic 3.0%.sup.w/v H.sub.2O.sub.2 and 1-10 ppm solutions of polymeric antimicrobial biguanides or quaternary ammonium compounds (e.g., 1 ppm. . .

SUMM . . . device compatibility with the disinfection system must also be considered. For example, no high-level disinfecting agent can be used for **contact lens** low-level disinfection because of the inherent incompatibility of the chemistry of the high-level disinfectants with either the **contact lens**, **contact lens** case or eyes with respect to neutralization requirements prior to wearing the lenses. Complicating this issue further is the introduction. . .

SUMM Huth, U.S. Pat. No. Re. 32,672 discloses a one step method for simultaneously cleaning and disinfecting **contact lenses** comprising contacting the lenses with a solution comprised of a disinfecting amount of peroxide and an effective amount of peroxide-active. . . reduce the microbial burden by one logarithm in three hours. The microbial burden and disinfection pertain solely to microorganisms contaminating **contact lenses** and the low-level disinfecting standards required by the Food and Drug Administration (FDA) for antimicrobial testing of **contact lens** disinfecting products. These low-level disinfection standards are based upon antimicrobial efficacy testing against particular panels of test organisms, the USP. . . Panel and the FDA "Soft Lens" Panel, both of which are representative of the types of organisms found specifically on **contact lenses**. Thus, disinfection in the '672 patent does not pertain to the standards for intermediate- and high-level disinfection of other medical. . . or soil redeposition inhibitors are not disclosed. Corrosion inhibitors to prevent metal part or adhesive corrosion are not disclosed, as **contact lenses** do not contain metal parts or adhesives. Chelating agents are also not disclosed. The '672 patent also does not pertain. . .

SUMM Huth, U.S. Pat. No. 5,356,555 discloses a method for simultaneously cleaning and disinfecting a **contact lens**, comprising the steps of (1) forming a disinfecting solution comprising polyhexamethylene biguanide and other excipients, (2) providing an effective and efficacious amount of subtilisin A proteolytic enzyme, (3) combining the **contact lens**, the disinfection solution and the subtilisin A and (4) soaking the lens in the resulting solution for a period of. . . '672 patent are also employed in the '555 patent. Again, the microbial burden and disinfection pertain solely to microorganisms contaminating **contact lenses** and the low-level disinfection standards required by the FDA for antimicrobial testing of **contact lens** disinfection products. Surfactants are disclosed. The use of soil redeposition inhibitors is not taught; however, two of the most commonly. . . to detoxify the active disinfecting agent. Again, corrosion inhibitors to prevent metal part or adhesive corrosion are not disclosed as **contact lenses** do not contain metal parts or adhesives. The '555 patent also does not pertain to reusable cleaning and disinfecting solutions.

DETD

Functional Component Raw Material Concentration %.sup.w/v

Disinfecting agent **hydrogen peroxide** 6.0-8.0
Disinfecting agent peracetic acid 0.08-0.20
Chelating agent Na.sub.2EDTA 0.05-0.35

H.sub.2O.sub.2 Stabilizer **Dequest 2010** 0.10-1.0
Buffer/H.sub.2O.sub.2 stabilizer boric acid 0.006-0.60
Anticorrosive 1,2,3-benzotriazole 0.10-1.0
Diluent water q.s. to volume

L32 ANSWER 5 OF 14 USPATFULL
AN 2002:140893 USPATFULL
TI Compositions containing therapeutically active components having enhanced solubility
IN Olejnik, Orest, Coto de Coza, CA, UNITED STATES
Kerslake, Edward D.S., Charlestown, MA, UNITED STATES
PA Allergan Sales, Inc., Irvine, CA (U.S. corporation)
PI US 2002071874 A1 20020613
AI US 2001-903962 A1 20010710 (9)
PRAI US 2000-218206P 20000714 (60)
DT Utility
FS APPLICATION
LREP Frank J. Uxa, Stout, Uxa, Buyan & Mullins, LLP, Suite 300, 4 Venture, Irvine, CA, 92618
CLMN Number of Claims: 52
ECL Exemplary Claim: 1
DRWN 1 Drawing Page(s)
LN.CNT 1119
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM . . . antihistamines, decongestants, antiinflammatories, antiparasitics, miotics, anticholinergics, adrenergics, antivirals, local anesthetics, antifungals, amoebicidals, trichomonocidals, analgesics, mydriatics, antiglaucoma drugs, carbonic anhydrase inhibitors, **ophthalmic** diagnostic agents, **ophthalmic** agents used as adjuvants in surgery, chelating agents, antineoplastics, antihypertensives, muscle relaxants, diagnostics and the like and mixtures thereof. Specific. . .
SUMM [0023] The present compositions preferably are **ophthalmically** acceptable, e.g. the compositions do not have deleterious or toxic properties which could harm the eye of the human or. . .
DETD . . . cocaine, benoxinate, dibucaine hydrochloride, dyclonine hydrochloride, naepaine, phenacaine hydrochloride, piperocaine, proparacaine hydrochloride, tetracaine hydrochloride, hexylcaine, bupivacaine, lidocaine, mepivacaine and prilocaine; **ophthalmic** diagnostic agents, such as: (a) those used to examine the retina such as sodium fluorescein, (b) those used to examine. . . rose bengal and (c) those used to examine abnormal pupillary responses such as methacholine, cocaine, adrenaline, atropine, hydroxyamphetamine and pilocarpine; **ophthalmic** agents used as adjuncts in surgery, such as alpha-chymotrypsin and hyaluronidase; chelating agents such as ethylenediaminetetraacetic acid (EDTA) and deferoxamine;. . .
DETD . . . enhance the stability of the TACs and/or reduce unwanted side effects of the TACs. Furthermore, the polyanionic component is preferably **ophthalmically** acceptable at the concentrations used. Additionally, the polyanionic component preferably includes three (3) or more anionic (or negative) charges. In. . .
DETD . . . be present in the acid form and/or in combination with one or more metals. Since the polyanionic components are preferably **ophthalmically** acceptable, it is preferred that the metal associated with the unionized polyanionic component be **ophthalmically** acceptable in the concentrations used. Particularly useful metals include the alkali metals, for example, sodium and potassium, the alkaline earth. . .
DETD . . . Inc. Other examples of oxidative preservative components includes peroxy components. For example, trace amounts of peroxy components stabilized with a **hydrogen peroxide** stabilizer, such as diethylene triamine penta(methylene phosphonic acid) or **1-hydroxyethylidene-1, 1-diphosphonic acid**, may be utilized as a preservative

for use in components designed to be used in the ocular environment. Also, virtually any peroxy component may be used so long as it is hydrolyzed in water to produce **hydrogen peroxide**. Examples of such sources of **hydrogen peroxide**, which provide an effective resultant amount of **hydrogen peroxide**, include **sodium perborate** decahydrate, **sodium peroxide** and urea peroxide. It has been found that peracetic acid, an organic peroxy compound, may not be stabilized utilizing the. . .

DETD . . . to be administered by one route may possess detrimental properties which preclude their administration by another route. For nasal and **ophthalmic** compositions, preferred preservatives include quaternary ammonium compounds, in particular the mixture of alkyl benzyl dimethyl ammonium compounds and the like. . .

DETD . . . liquid aqueous carrier component. A particularly useful aqueous liquid carrier component is that derived from saline, for example, a conventional **saline solution** or a conventional buffered **saline solution**. The aqueous liquid carrier preferably has a pH in the range of about 6 to about 9 or about 10, more preferably about 6 to about 8, and still more preferably about 7.5. The liquid medium preferably has an **ophthalmically** acceptable tonicity level, for example, of at least about 200 mOsmol/kg, more preferably in the range of about 200 to. . .

DETD . . . a preferred embodiment, the composition has a viscosity of about 50 cps at 25.degree. C. and comprises a conventional buffer **saline solution**, a carboxymethylcellulose and a Brimonidine tartrate.

DETD [0094] Any suitable **ophthalmically** acceptable tonicity component or components may be employed, provided that such component or components are compatible with the other ingredients. . .

DETD [0102] Brimonidine tartrate has a pKa of about 7.78. The pH-solubility profile of 0.5% (w/v) Brimonidine tartrate in a formulation, **Ophthalmic** Solution, was established in the pH range of about 5 to about 8 at 23.degree. C. Table 1. It will. . . of 80-90.degree. C. and stirred for an additional 10 minutes to ensure homogeneity (Part I). The other ingredients of the **Ophthalmic** Solution, except for Brimonidine tartrate, were dissolved in a separate container with an additional 1/3 of the required total amount. . .

DETD . . . steps of the sample preparation. To ensure reproducibility, the study was repeated on consecutive days.

TABLE I

0.5% Brimonidine tartrate in **Ophthalmic** Solution.

Ingredient	Percent (w/v)
Brimonidine tartrate	0.50
Benzalkonium Chloride, NF	0.0050
Polyvinyl Alcohol, USP	1.4
Sodium Chloride, USP	0.66
Sodium Citrate,. . .	

DETD . . . Brimonidine tartrate. The two solubility profiles obtained on consecutive days agree with each other.

TABLE II

Solubility of Brimonidine tartrate in the **Ophthalmic** Solution Over pH Range of 5 to 8.

	STUDY 1		STUDY 2	
Sample	pH.sup.a	Solubility.sup.e	pH.sup.a	Solubility.sup.e
1	5.55	.ltoreq.164.4.sup.b. . .		

CLM What is claimed is:

. . . antihistamines, decongestants, antiinflammatories, antiparasitics, miotics, anticholinergics, adrenergics, antivirals, local anesthetics, antifungals, amoebicidals, trichomonocidals, analgesics, mydriatics, antiglaucoma drugs, carbonic anhydrase inhibitors, **ophthalmic** diagnostic agents, **ophthalmic** agents used as adjuvants in surgery, chelating agents, antineoplastics, antihypertensives, muscle relaxants, diagnostics, derivatives thereof and mixtures thereof.

30. The composition of claim 1 which is **ophthalmically** acceptable.

37. The composition of claim 35 which is **ophthalmically** acceptable.

. . . antihistamines, decongestants, antiinflammatories, antiparasitics, miotics, anticholinergics, adrenergics, antivirals, local anesthetics, antifungals, amoebicidals, trichomonocidals, analgesics, mydriatics, antiglaucoma drugs, carbonic anhydrase inhibitors, **ophthalmic** diagnostic agents, **ophthalmic** agents used as adjuvants in surgery, chelating agents, antineoplastics, antihypertensives, muscle relaxants, diagnostics, derivatives thereof and mixtures thereof.

52. The composition of claim 38 which is **ophthalmically** acceptable.

L32 ANSWER 6 OF 14 USPATFULL
AN 2002:55038 USPATFULL
TI Compositions containing alpha-2-adrenergic agonist components
IN Olejnik, Orest, Coto de Coza, CA, UNITED STATES
Kerslake, Edward D.S., Charlestown, MA, UNITED STATES
PA Allergan Sales, Inc., Irvine, CA (U.S. corporation)
PI US 2002032201 A1 20020314
AI US 2001-904018 A1 20010710 (9)
PRAI US 2000-218200P 20000714 (60)
DT Utility
FS APPLICATION
LREP Frank J. Uxa, Stout, Uxa, Buyan & Mullins, LLP, Suite 300, 4 Venture, Irvine, CA, 92618
CLMN Number of Claims: 46
ECL Exemplary Claim: 1
DRWN 1 Drawing Page(s)
LN.CNT 1057
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM . . . In one embodiment, the compositions have pH's of about 7 or greater, preferably about 7 to about 9, and are **ophthalmically** acceptable.
SUMM [0016] In a preferred embodiment, the present compositions are **ophthalmically** acceptable, e.g. the compositions do not have deleterious or toxic properties which could harm the eye of the human or. . .
DETD . . . the alpha-2-adrenergic agonist components and/or reduce unwanted side effects of the alpha-2-adrenergic agonist components. Furthermore, the polyanionic component is preferably **ophthalmically** acceptable at the concentrations used. Additionally, the polyanionic component preferably includes three (3) or more anionic (or negative) charges. In. . .
DETD . . . be present in the acid form and/or in combination with one or more metals. Since the polyanionic components are preferably **ophthalmically** acceptable, it is preferred that the metal associated with the unionized polyanionic component be **ophthalmically** acceptable in the concentrations used. Particularly useful metals include the alkali metals, for example, sodium and potassium, the alkaline earth. . .

DETD . . . Inc. Other examples of oxidative preservative components includes peroxy components. For example, trace amounts of peroxy components stabilized with a **hydrogen peroxide** stabilizer, such as diethylene triamine penta(methylene phosphonic acid) or **1-hydroxyethylidene-1,1-diphosphonic acid**, may be utilized as a preservative for use in components designed to be used in the ocular environment. Also, virtually any peroxy component may be used so long as it is hydrolyzed in water to produce **hydrogen peroxide**. Examples of such sources of **hydrogen peroxide**, which provide an effective resultant amount of **hydrogen peroxide**, include **sodium perborate** decahydrate, **sodium peroxide** and urea peroxide. It has been found that peracetic acid, an organic peroxy compound, may not be stabilized utilizing the. . .

DETD . . . to be administered by one route may possess detrimental properties which preclude their administration by another route. For nasal and **ophthalmic** compositions, preferred preservatives include quaternary ammonium compounds, in particular the mixture of alkyl benzyl dimethyl ammonium compounds and the like. . .

DETD . . . liquid aqueous carrier component. A particularly useful aqueous liquid carrier component is that derived from saline, for example, a conventional **saline solution** or a conventional buffered **saline solution**. The aqueous liquid carrier preferably has a pH in the range of about 6 to about 9 or about 10, more preferably about 6 to about 8, and still more preferably about 7.5. The liquid medium preferably has an **ophthalmically** acceptable tonicity level, for example, of at least about 200 mOsmol/kg, more preferably in the range of about 200 to. . .

DETD . . . a preferred embodiment, the composition has a viscosity of about 50 cps at 25.degree. C. and comprises a conventional buffer **saline solution**, a carboxymethylcellulose and a Brimonidine tartrate.

DETD [0085] Any suitable **ophthalmically** acceptable tonicity component or components may be employed, provided that such component or components are compatible with the other ingredients. . .

DETD [0097] Brimonidine tartrate has a pKa of about 7.78. The pH-solubility profile of 0.5% (w/v) Brimonidine tartrate in a formulation, **Ophthalmic** Solution, was established in the pH range of about 5 to about 8 at 23 .degree. C. Table 1. It. . . of 80-90.degree. C. and stirred for an additional 10 minutes to ensure homogeneity (Part I). The other ingredients of the **Ophthalmic** Solution, except for Brimonidine tartrate, were dissolved in a separate container with an additional 1/3 of the required total amount. . .

DETD . . . steps of the sample preparation. To ensure reproducibility, the study was repeated on consecutive days.

TABLE I

0.5% Brimonidine tartrate in **Ophthalmic** Solution.

Ingredient	Percent (w/v)
Brimonidine tartrate	0.50
Benzalkonium Chloride, NF	0.0050
Polyvinyl Alcohol, USP	1.4
Sodium Chloride, USP	0.66
Sodium Citrate,. . .	

DETD . . . Brimonidine tartrate. The two solubility profiles obtained on consecutive days agree with each other.

TABLE II

Solubility of Brimonidine tartrate in the

Ophthalmic Solution Over pH Range of 5 to 8.

Sample	STUDY 1 pH.sup.a	Solubility.sup.e	STUDY 2 pH.sup.a	Solubility.sup.e
1	5.55	.gtoreq.164.4.sup.b	5.50.	. .

CLM What is claimed is:
23. The composition of claim 1 which is **ophthalmically** acceptable.

30. The composition of claim 28 which is **ophthalmically** acceptable.

L32 ANSWER 7 OF 14 USPATFULL
AN 2002:29151 USPATFULL
TI Hydrogen peroxide disinfectant with increased activity
IN Rochon, Michael J., Caledon, CANADA
PA Virox Technologies, Inc., Mississauga, CANADA (non-U.S. corporation)
PI US 6346279 B1 20020212
AI US 1999-356345 19990719 (9)
PRAI US 1998-112047P 19981214 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Pak, John
LREP Ridout & Maybee, LLP
CLMN Number of Claims: 14
ECL Exemplary Claim: 1
DRWN 0 Drawing Figure(s); 0 Drawing Page(s)
LN.CNT 529
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM . . . various surfactants are known. For example, Winterton et al. discloses, in U.S. Pat. No. 5,523,012, a buffered disinfecting solution for **contact lenses**, which has from about 0.1% to about 1.0% of an ocularly compatible surfactant. Winterton disclosed that in one experiment, addition. . .
SUMM It has now been found that addition of phosphorus-based acids and anionic surfactants greatly enhance the activity of aqueous **hydrogen peroxide** solutions. The phosphorus-based acids are inorganic acids or organic acids. Especially preferred are phosphoric acid (H.sub.3PO.sub.4) and phosphonates having 1 to 5 phosphonic acid groups. Particularly preferred phosphonates are amino tri(methylene phosphonic acid), **1-hydroxyethylidene-1,1,-diphosphonic acid**, diethylenetriaminepenta-(methylene phosphonic acid), 2-hydroxyethylimino bis(methylene phosphonic acid), ethylene diamine tetra(methylene phosphonic acid). Each may be used alone but mixtures of. . . from 0.05 to 8.0 wt./wt. % of the solution. The lower concentrations are preferable for solutions with lower concentrations of **hydrogen peroxide**. The pH of the solutions are preferably from about 1 to about 9, particularly from 1 to 7, and even. . .

L32 ANSWER 8 OF 14 USPATFULL
AN 2000:121077 USPATFULL
TI Use of compositions comprising stabilized biologically effective compounds
IN Edens, Luppo, Rotterdam, Netherlands
Tan, Hong Sheng, Bleiswijk, Netherlands
Lambers, Johannes Wilhelmus Jacobus, Pijnacker, Netherlands
PA DSM N.V., Te Heerlen, Netherlands (non-U.S. corporation)
PI US 6117433 20000912
WO 9727841 19970807
AI US 1998-930685 19980428 (8)
WO 1997-EP507 19970131
19980408 PCT 371 date

19980408 PCT 102(e) date
PRAI EP 1996-200190 19960131
EP 1996-200594 19960308
EP 1996-201713 19960621
EP 1996-202781 19961003
DT Utility
FS Granted
EXNAM Primary Examiner: Levy, Neil S.
LREP Morrison & Foerster LLP
CLMN Number of Claims: 26
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 1319
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM **Hydrogen peroxide** solutions can be stably incorporated in the second aqueous composition in the dispensing system of the invention, by the use of stabilizers such as sodium stannate or phosphonic acid (e.g. **Dequest 2010**). These stabilizers preferably are combined with a suitable viscosifying agent like Carbopol 934 or Rheovis CRXCA (Allied Colloids). In this approach, the first composition contains the stabilized enzyme and any **hydrogen peroxide**-incompatible chemicals.
SUMM . . . in the field of topical application, to fight various forms of eczema or acne, but also in applications such as **contact lens** cleaning and household hard surface cleaners.

L32 ANSWER 9 OF 14 USPATFULL
AN 2000:109335 USPATFULL
TI Conjugation of polypeptides
IN Bisgard-Frantzen, Henrik, Bagsvaerd, Denmark
Olsen, Arne Agerlin, Virum, Denmark
Prento, Annette, Ballerup, Denmark
PA Novo Nordisk A/S, Bagsvaerd, Denmark (non-U.S. corporation)
PI US 6106828 20000822
AI US 1998-123787 19980728 (9)
RLI Continuation of Ser. No. WO 1997-DK51, filed on 7 Feb 1997
PRAI DK 1996-154 19960215
DT Utility
FS Granted
EXNAM Primary Examiner: Stole, Einar
LREP Zelson, Esq., Steve T., Green, Esq., Reza
CLMN Number of Claims: 40
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 1823
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
DETD . . . normally used in e.g. detergents, including soap bars, household articles, agrochemicals, personal care products, such as cleaning preparations e.g. for **contact lenses**, cosmetics, toiletries, oral and dermal pharmaceuticals, composition use for treating textiles, compositions for cleaning hard surfaces, compositions used for manufacturing. . .
DETD Proteases are well-known active ingredients for cleaning of **contact lenses**. They hydrolyse the proteinaceous soil on the lens and thereby makes it soluble. Removal of thee protein soil is essential. . .
DETD Lipases are also effective ingredients in products for cleaning of **contact lenses**, where they remove lipid deposits from the lens surface.
DETD Anti-microbial systems comprising the combination of an oxidase and a peroxidase are known in the cleaning of **contact lenses** .
DETD . . . applications such as for preservation of cosmetic products, anti-acne products, deodorants and shampoos. Further such polypeptides

may be use in **contact lens** products.

DETD . . . chloride
0.5-1
Sequestrants 1-Hydroxyethane-1,1-
0.1-0.2
diphosphonic acid
Alkaline agents
Ammonia 1.2-2
Oxidation dyestuffs
Developing agents
1
Coupling agents
1
Enzyme Laccase 0-5
Water Balance
Component II:
Hydrogen peroxide dispersion
Surfactants Lauryl ether sulfate
0.5-1
Oxidants **Hydrogen peroxide**
6-9
Stabilizers **1-Hydroxyethane-1,1-**
diphosphonic acid
Thickeners Polyacrylates 3-5
Enzyme Laccase 0-5
Water Balance
Shaving cream
Soaps Palmitic/Stearic acid
30-40
Potassium hydroxide
5-7
Sodium hydroxide
1-2
Fatty components
Coconut oil 5-10
Polyethyleneglycol

. . .

DETD Also for **contact lenses** hygiene products the conjugate of the invention can be used advantageously. Such products include **contact lenses** cleaning and disinfection products.

L32 ANSWER 10 OF 14 USPATFULL
AN 1998:111675 USPATFULL
TI Method of preserving **ophthalmic** solution and compositions therefor
IN Martin, Stephen M., Roswell, GA, United States
Tsao, Fu-Pao, Lawrenceville, GA, United States
PA Ciba Vision Corporation, Duluth, GA, United States (U.S. corporation)
PI US 5807585 19980915
AI US 1996-761174 19961206 (8)
RLI Continuation of Ser. No. US 1996-709452, filed on 5 Sep 1996, now patented, Pat. No. US 5725887 which is a continuation of Ser. No. US 1994-259201, filed on 13 Jun 1994, now abandoned which is a division of Ser. No. US 1993-99986, filed on 29 Jul 1993, now abandoned which is a continuation of Ser. No. US 1992-968224, filed on 29 Oct 1992, now abandoned which is a continuation of Ser. No. US 1991-733485, filed on 22 Jul 1991, now abandoned which is a continuation of Ser. No. US 1989-376083, filed on 6 Jul 1989, now abandoned which is a continuation-in-part of Ser. No. US 1988-229163, filed on 4 Aug 1988, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Fay, Zohreh

LREP Lee, Michael U., Meece, R. Scott
CLMN Number of Claims: 16
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 677
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
TI Method of preserving **ophthalmic** solution and compositions therefor
AB A preservative for **ophthalmic** solutions having an active ingredient is provided, having a **hydrogen peroxide** content of about 0.001% to about 0.10% by weight; and diethylene triamine penta(methylene phosphonic acid) or a physiologically compatible salt thereof, present at about 0.002% to 0.03% by weight and/or 0.005% to about 0.20% by weight of **1-hydroxyethylidene-1,1-diphosphonic acid**, or physiologically acceptable salt thereof.
SUMM The present invention relates to a method of preserving **ophthalmic** solutions with trace amounts of stabilized peroxy compounds. More particularly, this invention relates to the use of stabilized trace amounts of hydrogen peroxide as preservative in buffered saline for **eye care** solutions.
SUMM . . . e.g. about 0.5 to 6% by weight in water, is known to be effective as a disinfectant for use with **contact lenses** in order to kill any contaminating microorganisms.
SUMM . . . bleaching of cellulosic materials. Exemplified are compositions having a pH of 12.0. However, such highly basic compositions are undesirable in **ophthalmically**-related solutions, including eyewashes and **contact lens** cleaning solutions.
SUMM Also, British Patent No. 1,500,707 discloses a **contact lens** sterilizing solution using hydrogen peroxide with 200-2000 ppm of a phosphate [pyrophosphate] stabilizer at a pH of 4.5.
SUMM . . . peroxide are effectively stabilized nor is there any indication that hydrogen peroxide might be used as a preservative for an **ophthalmic** solution.
SUMM Some of the **eye care** solutions commercially available today use benzalkonium chloride, rather than hydrogen peroxide, as a preservative. For example, **contact lens** solutions typically contain 0.9% sodium chloride, buffers, surfactants, wetting agents, and 0.002 to 0.01% benzalkonium chloride. Benzalkonium chloride is also used in other products, including isotonic decongestant **ophthalmic** solutions, such as Visine.RTM. eyedrops manufactured by the Leeming Division of Pfizer, Inc.
SUMM . . . benzalkonium chloride, being cationic in character, reacts with proteins found in the ocular environment and causes unwanted deposits on soft **contact lenses**. Benzalkonium chloride and its analogs are also taken up by lens material and can have a deleterious effect on the. . . with cotton and nylon fibers. Furthermore, in Swan, K. C., "Reactivity of the Ocular Tissues to Wetting Agents", Am. J. **Ophthalmol**., 27, 118 (1944), it was noted that repeated use of benzalkonium chloride at concentrations of 1:5000 or stronger can denature. . .
SUMM . . . such as thimerosal, benzalkonium chloride and others are discussed in the following literature: M. Sibley, et al., "Understanding Sorbic Acid-Preserved **Contact Lens** Solutions", International **Contact Lens** Clinic, 11 (9), 531 (1984); M. Orron, et al., "Measurement of Preservative Binding with Soflens.RTM. (polymacon) **Contact Lens**", Aust. J. Optom., 59, 277 (1976); and M. Akers, "Considerations in selecting antimicrobial preservative agents for parenteral product development", Pharmaceutical. . .
SUMM An object of the invention is to provide a preservative for all manner of **ophthalmic** and **ophthalmically** related solutions having hydrogen peroxide compatible components which does not suffer from the aforementioned defects.

SUMM Another object of the invention is to provide preserved **ophthalmic** and **ophthalmically** related solution formulations which are free of the known art preservatives.

SUMM Yet another object of the invention is to provide a means of preserving **ophthalmic** and **ophthalmically** related solutions with hydrogen peroxide or hydrogen peroxide generating components.

SUMM . . . are overcome by stabilized trace peroxy compounds provided by the present invention which may be used as a preservative in **ophthalmic** solutions such as eye lubrication solutions, **ophthalmic** drug formulations and **contact lens** solutions.

SUMM . . . addition, the pH is also compatible with the ocular environment or upon the dilution indicated above is made so. For **ophthalmic** solutions (those which are to be instilled in the eye directly), the peroxy content and pH must per se be in the "ocular compatible range". **Ophthalmic** related solutions (those which are used in conjunction with **contact lenses**, other than "comfort or lubricating" drops which may be for instillation directly to the eye) may have appreciably higher peroxy. . .

SUMM . . . invention therefore relates to hydrogen peroxide or a source of hydrogen peroxide in trace amounts as a preservative for an **ophthalmic** solution, said hydrogen peroxide being especially effectively stabilized by addition of diethylene triamine penta(methylene phosphonic acid) or 1-hydroxyethylidene-1,1-diphosphonate, to the use of said stabilized trace amounts of hydrogen peroxide for preserving an **ophthalmic** solution, to **ophthalmic** solutions so preserved, to the manufacture of so preserved **ophthalmic** solutions and to a method of preserving any **ophthalmic** solution by adding thereto said stabilized trace amounts of stabilized hydrogen peroxide or a source of hydrogen peroxide.

SUMM For example, the trace amount of the hydrogen peroxide in these **ophthalmic** solutions ranges from about 0.001% (10 ppm) to about 0.10% (1000 ppm) by weight and is stabilized by about 0.002%. . .

SUMM Trace amounts of peroxy compounds stabilized with a **hydrogen peroxide** stabilizer, especially diethylene triamine penta(methylene phosphonic acid) or **1-hydroxyethylidene-1,1-diphosphonic acid** may be utilized as a preservative for drugs, eyewashes, or other solutions containing an active ingredient designed to be used. . . invention may be used in the ocular environment. The preservative according to the present invention may be used in any **ophthalmic** solution as long as the active ingredient in that solution is compatible with trace amounts of the peroxy compounds. Also, virtually any peroxy compound may be used so long as it is hydrolyzed in water to produce **hydrogen peroxide**. Examples of such sources of **hydrogen peroxide**, which provide an effective resultant amount of **hydrogen peroxide**, include **sodium perborate** decahydrate, **sodium peroxide** and urea peroxide. It has been found that peracetic acid, an organic peroxy compound, cannot be stabilized utilizing the present. . .

SUMM The full scope of the present invention includes **ophthalmic** active agent containing solutions as well as solutions which are **ophthalmic** active agent free. The former group contains at least one medicinal agent for application directly to the eye. The latter group comprises such solutions as preserved saline, preserved **contact lens** cleaning solutions, preserved **contact lens** stabilizing solutions, preserved wetting solutions, and preserved lubricating solutions, among others.

SUMM . . . mentioned to which the invention is applicable. However, when the solution is to come in contact with a hydrogel soft **contact lens**, stannate stabilizers are to be avoided as they tend to "cloud" the lens material.

SUMM The pH of the stabilized solution presents another advantage over the prior art since the pH's of most existing **ophthalmic** solutions containing hydrogen peroxide are relatively low. The pH values of available hydrogen peroxide products for **contact lenses** are listed as follows:

SUMM Another advantage in using hydrogen peroxide in **ophthalmic** solutions is that the trace amount of hydrogen peroxide, especially less than 100 ppm, is destroyed once it comes in. . .

DETD Dissolve 0.61 g of sodium chloride, 0.50 g boric acid, 0.005 g sodium borate decahydrate, and various amounts of **1-hydroxyethylidene-1,1-diphosphonic acid** in 80 ml of deionized water. Add 0.0238 g **sodium perborate**. Add water up to 100 ml and adjust the pH to 7 by the addition dropwise of diluted hydrochloric acid. . .

CLM What is claimed is:

1. A **contact lens** treatment solution, comprising a source of hydrogen peroxide in concentration sufficient to act as a preservative for an **ophthalmic** solution, wherein said hydrogen peroxide concentration is less than an amount which is intolerable for direct application to the eye.

. . .

2. A **contact lens** treatment solution of claim 1, comprising a source of hydrogen peroxide resulting in 0.001 to 0.10 weight percent hydrogen peroxide.

. . .

3. A **contact lens** treatment solution of claim 1, comprising: (a) a source of hydrogen peroxide resulting in 0.001 to 0.10 weight percent hydrogen. . .

4. A **contact lens** treatment solution of claim 1, wherein said source of hydrogen peroxide is selected from the group consisting of hydrogen peroxide,. . .

5. A **contact lens** treatment solution of claim 2, wherein said source of hydrogen peroxide is selected from the group consisting of hydrogen peroxide,. . .

6. A method of treating a **contact lens**, comprising contacting the lens with a preserved composition including: (1) a source of hydrogen peroxide in an amount sufficient to. . .

14. A method of treating a **contact lens** as recited in claim 6, comprising: (a) contacting the lens with a composition effective in disinfecting or cleaning; and (b). . .

15. A method of storing a **contact lens** for an extended period in the absence of substantial microbial growth, comprising the steps of: (a) placing a lens in a container; and (b) placing an antimicrobial buffered **saline solution** in the container in an amount sufficient to immerse the lens, the antimicrobial buffered **saline solution** including: (1) a source of hydrogen peroxide in an amount sufficient to generate about 0.001 to 0.10 weight percent hydrogen. . .

16. A method of claim 15, comprising the steps of: (a) providing a **contact lens** substantially free of biological matter; (b) placing the lens in a container; and (c) placing an antimicrobial buffered **saline solution** in the container in an amount sufficient to immerse the lens, the antimicrobial buffered **saline solution** including: (1) a source of hydrogen peroxide in an amount sufficient to generate about 0.001 to 0.10 weight percent hydrogen. . .

L32 ANSWER 11 OF 14 USPATFULL

AN 1998:24949 USPATFULL

TI Method of preserving **ophthalmic** solutions and compositions therefor

IN Martin, Stephen M., Roswell, GA, United States
Tsao, Fu-Pao, Lawrenceville, GA, United States

PA CIBA Vision Corporation, Duluth, GA, United States (U.S. corporation)

PI US 5725887 19980310
AI US 1996-709452 19960905 (8)
RLI Continuation of Ser. No. US 1994-339447, filed on 14 Nov 1994, now patented, Pat. No. US 5607698 which is a continuation of Ser. No. US 1993-99986, filed on 29 Jul 1993, now abandoned which is a continuation of Ser. No. US 1992-968224, filed on 29 Oct 1992, now abandoned which is a continuation of Ser. No. US 1991-733485, filed on 22 Jul 1991, now abandoned which is a continuation of Ser. No. US 1989-376083, filed on 6 Jul 1989, now abandoned which is a continuation-in-part of Ser. No. US 1988-229163, filed on 4 Aug 1988, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Fay, Zohreh
LREP Lee, Michael U., Meece, R. Scott
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 706
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
TI Method of preserving **ophthalmic** solutions and compositions therefor
AB A preservative for **ophthalmic** solutions having an active ingredient is provided, having a **hydrogen peroxide** content of about 0.001% to about 0.10% by weight; and diethylene triamine penta(methylene phosphonic acid) or a physiologically compatible salt thereof, present at about 0.002% to 0.03% by weight and/or 0.005% to about 0.20% by weight of **1-hydroxyethylidene-1,1-diphosphonic acid**, or physiologically acceptable salt thereof.
SUMM The present invention relates to a method of preserving **ophthalmic** solutions with trace amounts of stabilized peroxy compounds. More particularly, this invention relates to the use of stabilized trace amounts of hydrogen peroxide as preservative in buffered saline for **eye care** solutions.
SUMM . . . e.g. about 0.5 to 6% by weight in water, is known to be effective as a disinfectant for use with **contact lenses** in order to kill any contaminating microorganisms.
SUMM . . . bleaching of cellulosic materials. Exemplified are compositions having a pH of 12.0. However, such highly basic compositions are undesirable in **ophthalmically**-related solutions, including eyewashes and **contact lens** cleaning solutions.
SUMM Also, British Patent No. 1,500,707 discloses a **contact lens** sterilizing solution using hydrogen peroxide with 200-2000 ppm of a phosphate [pyrophosphate] stabilizer at a pH of 4.5.
SUMM . . . peroxide are effectively stabilized nor is there any indication that hydrogen peroxide might be used as a preservative for an **ophthalmic** solution.
SUMM Some of the **eye care** solutions commercially available today use benzalkonium chloride, rather than hydrogen peroxide, as a preservative. For example, **contact lens** solutions typically contain 0.9% sodium chloride, buffers, surfactants, wetting agents, and 0.002 to 0.01% benzalkonium chloride. Benzalkonium chloride is also used in other products, including isotonic decongestant **ophthalmic** solutions, such as Visine.RTM. eyedrops manufactured by the Leeming Division of Pfizer, Inc.
SUMM . . . benzalkonium chloride, being cationic in character, reacts with proteins found in the ocular environment and causes unwanted deposits on soft **contact lenses**. Benzalkonium chloride and its analogs are also taken up by lens material and can have a deleterious effect on the. . . with cotton and nylon fibers. Furthermore, in Swan, K. C., "Reactivity of the Ocular Tissues to Wetting Agents", Am. J. **Ophthalmol**., 27, 118 (1944), it was noted that repeated use of benzalkonium chloride at concentrations of 1:5000 or stronger can denature. . .

SUMM . . . such as thimerosal, benzalkonium chloride and others are discussed in the following literature: M. Sibley, et al., "Understanding Sorbic Acid-Preserved **Contact Lens** Solutions", International **Contact Lens** Clinic, 11 (9), 531 (1984); M. Orron, et al., "Measurement of Preservative Binding with Soflens.RTM. (polymacon) **Contact Lens**", Aust. J. Optom., 59, 277 (1976); and M. Akers, "Considerations in selecting antimicrobial preservative agents for parenteral product development", Pharmaceutical. . .

SUMM An object of the invention is to provide a preservative for all manner of **ophthalmic** and **ophthalmically** related solutions having hydrogen peroxide compatible components which does not suffer from the aforementioned defects.

SUMM Another object of the invention is to provide preserved **ophthalmic** and **ophthalmically** related solution formulations which are free of the known art preservatives.

SUMM Yet another object of the invention is to provide a means of preserving **ophthalmic** and **ophthalmically** related solutions with hydrogen peroxide or hydrogen peroxide generating components.

SUMM . . . are overcome by stabilized trace peroxy compounds provided by the present invention which may be used as a preservative in **ophthalmic** solutions such as eye lubrication solutions, **ophthalmic** drug formulations and **contact lens** solutions.

SUMM . . . addition, the pH is also compatible with the ocular environment or upon the dilution indicated above is made so. For **ophthalmic** solutions (those which are to be instilled in the eye directly), the peroxy content and pH must per se be in the "ocular compatible range". **Ophthalmic** related solutions (those which are used in conjunction with **contact lenses**, other than "comfort or lubricating" drops which may be for instillation directly to the eye) may have appreciably higher peroxy. . .

SUMM . . . invention therefore relates to hydrogen peroxide or a source of hydrogen peroxide in trace amounts as a preservative for an **ophthalmic** solution, said hydrogen peroxide being especially effectively stabilized by addition of diethylene triamine penta(methylene phosphonic acid) or 1-hydroxyethylidene-1,1-diphosphonate, to the use of said stabilized trace amounts of hydrogen peroxide for preserving an **ophthalmic** solution, to **ophthalmic** solutions so preserved, to the manufacture of so preserved **ophthalmic** solutions and to a method of preserving any **ophthalmic** solution by adding thereto said stabilized trace amounts of stabilized hydrogen peroxide or a source of hydrogen peroxide.

SUMM For example, the trace amount of the hydrogen peroxide in these **ophthalmic** solutions ranges from about 0.001% (10 ppm) to about 0.10% (1000 ppm) by weight and is stabilized by about 0.002%. . .

SUMM Trace amounts of peroxy compounds stabilized with a **hydrogen peroxide** stabilizer, especially diethylene triamine penta(methylene phosphonic acid) or **1-hydroxyethylidene-1,1-diphosphonic acid** may be utilized as a preservative for drugs, eyewashes, or other solutions containing an active ingredient designed to be used. . . invention may be used in the ocular environment. The preservative according to the present invention may be used in any **ophthalmic** solution as long as the active ingredient in that solution is compatible with trace amounts of the peroxy compounds. Also, virtually any peroxy compound may be used so long as it is hydrolyzed in water to produce **hydrogen peroxide**. Examples of such sources of **hydrogen peroxide**, which provide an effective resultant amount of **hydrogen peroxide**, include **sodium perborate** decahydrate, **sodium peroxide** and urea peroxide. It has been found that peracetic acid, an organic peroxy compound, cannot be stabilized utilizing the

present. . .

SUMM The full scope of the present invention includes **ophthalmic** active agent containing solutions as well as solutions which are **ophthalmic** active agent free. The former group contains at least one medicinal agent for application directly to the eye. The latter group comprises such solutions as preserved saline, preserved **contact lens** cleaning solutions, preserved **contact lens** stabilizing solutions, preserved wetting solutions, and preserved lubricating solutions, among others.

SUMM . . . mentioned to which the invention is applicable. However, when the solution is to come in contact with a hydrogel soft **contact lens**, stannate stabilizers are to be avoided as they tend to "cloud" the lens material.

SUMM The pH of the stabilized solution presents another advantage over the prior art since the pH's of most existing **ophthalmic** solutions containing hydrogen peroxide are relatively low. The pH values of available hydrogen peroxide products for **contact lenses** are listed as follows:

SUMM Another advantage in using hydrogen peroxide in **ophthalmic** solutions is that the trace amount of hydrogen peroxide, especially less than 100 ppm, is destroyed once comes in contact. . .

DETD Dissolve 0.61 g of sodium chloride, 0.50 g boric acid, 0.005 g sodium borate decahydrate, and various amounts of **1-hydroxyethylidene-1,1-diphosphonic acid** in 80 ml of deionized water. Add 0.0238 g **sodium perborate**. Add water up to 100 ml and adjust the pH to 7 by the addition dropwise of diluted hydrochloric acid. . .

CLM What is claimed is:

1. A preserved **ophthalmic** formulation comprising an eye wetting solution, an eye lubricating solution or comfort solution, or an **ophthalmic** drug formulation comprising an **ophthalmic** active agent which is compatible with hydrogen peroxide, any said formulation being effectively preserved by an ocularly compatible amount of. . . or more ocularly compatible hydrogen peroxide stabilizers in a sufficient amount to stabilize the resultant hydrogen peroxide; the said preserved **ophthalmic** formulation being suitable to be directly instilled in the eye of a mammal.

2. A preserved **ophthalmic** formulation according to claim 1 wherein the hydrogen peroxide is provided in a trace amount of 10 to 80 ppm.

. . .

3. A preserved **ophthalmic** formulation according to claim 1 wherein the hydrogen peroxide is provided in a trace amount from 10 to 60 ppm.

. . .

4. A preserved **ophthalmic** formulation according to claims 1 wherein said source of hydrogen peroxide is hydrogen peroxide, sodium perborate, sodium peroxide or urea. . .

5. A preserved **ophthalmic** formulation according to claim 1 wherein said source of hydrogen peroxide is sodium perborate.

6. A preserved **ophthalmic** formulation according to claim 1 wherein the hydrogen peroxide stabilizer is selected from the group consisting of (a) compounds of. . .

7. A preserved **ophthalmic** formulation according to claim 6 wherein in formula I, z is 2 and each of C.sub.1-4 alkylene is C.sub.1 or. . .

8. A preserved **ophthalmic** formulation according to claim 1 wherein a said **hydrogen peroxide** source is selected from the group consisting of **hydrogen peroxide, sodium perborate, sodium peroxide** and urea peroxide, and a said **hydrogen peroxide** stabilizer is diethylene triamine penta(methylenephosphonic acid) or

1-hydroxyethylidene-1,1-diphosphonic acid, or a physiologically compatible salt thereof.

9. A preserved **ophthalmic** formulation according to claim 1 wherein said effective amount of diethylene triamine penta(methylenephosphonic acid) or physiologically compatible salt thereof, is. . .
10. A preserved **ophthalmic** formulation according to claim 9 wherein the source of hydrogen peroxide is sodium perborate and the hydrogen peroxide stabilizer is. . .
11. A preserved **ophthalmic** drug formulation according to claim 1 comprising (a) an effective amount of an **ophthalmic** medicinal agent which is compatible with hydrogen peroxide; (b) a source of hydrogen peroxide for providing hydrogen peroxide in a. . .
12. A preserved **ophthalmic** drug formulation according to claim 11 wherein the hydrogen peroxide is provided in a trace amount of 10 to 60. . .
13. A preserved **ophthalmic** drug formulation according to claim 11 wherein a said **hydrogen peroxide** source is selected from the group consisting of **hydrogen peroxide**, **sodium perborate**, **sodium peroxide** and urea peroxide, and a said **hydrogen peroxide** stabilizer is diethylene triamine penta(methylenephosphonic acid) or a **1-hydroxyethylidene-1,1-diphosphonic acid**, or a physiologically compatible salt thereof.

14. A preserved **ophthalmic** drug formulation according to claim 11 wherein said effective amount of diethylene triamine penta(methylenephosphonic acid), or a physiologically compatible salt. . .
15. A preserved **ophthalmic** drug formulation according to claim 11 wherein the source of hydrogen peroxide is sodium perborate and the hydrogen peroxide stabilizer. . .
16. A preserved **ophthalmic** drug formulation according to claim 11 wherein the medicinal agent is diclofenac sodium.

17. A preserved **ophthalmic** drug formulation according to claim 11 wherein the medicinal agent is naphazoline hydrochloride.

18. A preserved **ophthalmic** drug formulation according to claim 11 wherein the medicinal agent is pilocarpine hydrochloride.

19. A preserved **ophthalmic** drug formulation according to claim 11 wherein the medicinal agent is tetrahydrozoline hydrochloride.

20. A preserved **ophthalmic** drug formulation according to claim 11 wherein the medicinal agent is naphazoline hydrochloride.

L32 ANSWER 12 OF 14 USPATFULL
AN 97:17925 USPATFULL
TI Method of preserving **ophthalmic** solution and compositions therefor
IN Martin, Stephen M., Roswell, GA, United States
Tsao, Fu-Pao, Lawrenceville, GA, United States
PA Ciba-Geigy Corporation, Tarrytown, NY, United States (U.S. corporation)
PI US 5607698 19970304
AI US 1994-339447 19941114 (8)
RLI Continuation of Ser. No. US 1993-99986, filed on 29 Jul 1993, now abandoned which is a continuation of Ser. No. US 1992-968224, filed on 29 Oct 1992, now abandoned which is a continuation of Ser. No. US 1991-733485, filed on 22 Jul 1991, now abandoned which is a continuation

of Ser. No. US 1989-376083, filed on 6 Jul 1989, now abandoned which is a continuation-in-part of Ser. No. US 1988-229163, filed on 4 Aug 1988, now abandoned

DT Utility

FS Granted

EXNAM Primary Examiner: Fay, Zohreh

LREP Gruenfeld, Norbert

CLMN Number of Claims: 28

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 726

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Method of preserving **ophthalmic** solution and compositions therefor

AB A preservative for **ophthalmic** solutions having an active ingredient is provided, having a **hydrogen peroxide** content of about 0.001% to about 0.10% by weight; and diethylene triamine penta(methylene phosphonic acid) or a physiologically compatible salt thereof, present at about 0.002% to 0.03% by weight and/or 0.005% to about 0.20% by weight of **1-hydroxyethylidene-1,1-diphosphonic acid**, or physiologically acceptable salt thereof.

SUMM The present invention relates to a method of preserving **ophthalmic** solutions with trace amounts of stabilized peroxy compounds. More particularly, this invention relates to the use of stabilized trace amounts of hydrogen peroxide as preservative in buffered saline for **eye care** solutions.

SUMM . . . e.g. about 0.5 to 6% by weight in water, is known to be effective as a disinfectant for use with **contact lenses** in order to kill any contaminating microorganisms.

SUMM . . . bleaching of cellulosic materials. Exemplified are compositions having a pH of 12.0. However, such highly basic compositions are undesirable in **ophthalmically**-related solutions, including eyewashes and **contact lens** cleaning solutions.

SUMM Also, British Patent No. 1,500,707 discloses a **contact lens** sterilizing solution using hydrogen peroxide with 200-2000 ppm of a phosphate [pyrophosphate] stabilizer at a pH of 4.5.

SUMM . . . peroxide are effectively stabilized nor is there any indication that hydrogen peroxide might be used as a preservative for an **ophthalmic** solution.

SUMM Some of the **eye care** solutions commercially available. today use benzalkonium chloride, rather than hydrogen peroxide, as a preservative. For example, **contact lens** solutions typically contain 0.9% sodium chloride, buffers, surfactants, wetting agents, and 0.002 to 0.01% benzalkonium chloride. Benzalkonium chloride is also used in other products, including isotonic decongestant **ophthalmic** solutions, such as Visine.RTM. eyedrops manufactured by the Leeming Division of Pfizer, Inc.

SUMM . . . benzalkonium chloride, being cationic in character, reacts with proteins found in the ocular environment and causes unwanted deposits on soft **contact lenses**. Benzalkonium chloride and its analogs are also taken up by lens material and can have a deleterious effect on the. . . with cotton and nylon fibers. Furthermore, in Swan, K. C., "Reactivity of the Ocular Tissues to Wetting Agents", Am. J. **Ophthalmol**., 27, 118 (1944), it was noted that repeated use of benzalkonium chloride at concentrations of 1:5000 or stronger can denature. . .

SUMM . . . such as thimerosal, benzalkonium chloride and others are discussed in the following literature: M. Sibley, et al., "Understanding Sorbic Acid-Preserved **Contact Lens** Solutions", International **Contact Lens** Clinic, 11 (9), 531 (1984); M. Orton, et al., "Measurement of Preservative Binding with Soflens.RTM. (polymacon) **Contact Lens**", Aust J Optom , 59, 277 (1976); and M Akers, "Consideration in selecting antimicrobial

preservative agents for parenteral product development",. . .

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SUMM Yet another object of the invention is to provide a means of preserving **ophthalmic** and **ophthalmically** related solutions with hydrogen peroxide or hydrogen peroxide generating components.

SUMM . . . are overcome by stabilized trace peroxy compounds provided by the present invention which may be used as a preservative in **ophthalmic** solutions such as eye lubrication solutions, **ophthalmic** drug formulations and **contact lens** solutions.

SUMM . . . addition, the pH is also compatible with the ocular environment or upon the dilution indicated above is made so. For **ophthalmic** solutions (those which are to be instilled in the eye directly), the peroxy content and pH must per se be in the "ocular compatible range". **Ophthalmic** related solutions (those which are used in conjunction with **contact lenses**, other than "comfort or lubricating" drops which may be for instillation directly to the eye) may have appreciably higher peroxy. . .

SUMM . . . invention therefore relates to hydrogen peroxide or a source of hydrogen peroxide in trace amounts as a preservative for an **ophthalmic** solution, said hydrogen peroxide being especially effectively stabilized by addition of diethylene triamine penta(methylene phosphonic acid) or 1-hydroxyethylidene-1,1-diphosphonate, to the use of said stabilized trace amounts of hydrogen peroxide for preserving an **ophthalmic** solution, to **ophthalmic** solutions so preserved, to the manufacture of so preserved **ophthalmic** solutions and to a method of preserving any **ophthalmic** solution by adding thereto said stabilized trace amounts of stabilized hydrogen peroxide or a source of hydrogen peroxide.

SUMM For example, the trace amount of the hydrogen peroxide in these **ophthalmic** solutions ranges from about 0.001% (10 ppm) to about 0.10% (1000 ppm) by weight and is stabilized by about 0.002%. . .

SUMM Trace amounts of peroxy compounds stabilized with a **hydrogen peroxide** stabilizer, especially diethylene triamine penta(methylene phosphonic acid) or **1-hydroxyethylidene-1,1-diphosphonic acid** may be utilized as a preservative for drugs, eyewashes, or other solutions containing an active ingredient designed to be used. . . invention may be used in the ocular environment. The preservative according to the present invention may be used in any **ophthalmic** solution as long as the active ingredient in that solution is compatible with trace amounts of the peroxy compounds. Also, virtually any peroxy compound may be used so long as it is hydrolyzed in water to produce **hydrogen peroxide**. EXAMPLEs of such sources of **hydrogen peroxide**, which provide an effective resultant amount of **hydrogen peroxide**, include **sodium perborate** decahydrate, **sodium peroxide** and urea peroxide. It has been found that peracetic acid, an organic peroxy compound, cannot be stabilized utilizing the present. . .

SUMM The full scope of the present invention includes **ophthalmic** active agent containing solutions as well as solutions which are **ophthalmic** active agent free. The former group contains at least one medicinal agent for application directly to the eye. The latter group comprises such solutions as preserved saline, preserved **contact lens** cleaning solutions, preserved **contact lens** stabilizing solutions, preserved wetting

solutions, and preserved lubricating solutions, among others.

SUMM . . . mentioned to which the invention is applicable. However, when the solution is to come in contact with a hydrogel soft **contact lens**, stannate stabilizers are to be avoided as they tend to "cloud" the lens material.

SUMM The pH of the stabilized solution presents another advantage over the prior art since the pH's of most existing **ophthalmic** solutions containing hydrogen peroxide are relatively low. The pH values of available hydrogen peroxide products for **contact lenses** are listed as follows:

SUMM Another advantage in using hydrogen peroxide in **ophthalmic** solutions is that the trace amount of hydrogen peroxide, especially less than 100 ppm, is destroyed once it comes in. . .

DETD Dissolve 0.61 g of sodium chloride, 0.50 g boric acid, 0.005 g sodium borate decahydrate, and various amounts of **1-hydroxyethylidene-1,1-diphosphonic acid** in 80 ml of deionized water. Add 0.0238 g **sodium perborate**. Add water up to 100 ml and adjust the pH to 7 by the addition dropwise of diluted hydrochloric acid. . .

CLM What is claimed is:

1. A method of preserving an eye wetting solution, an eye lubrication solution or an **ophthalmic** drug formulation comprising an **ophthalmic** active agent which is compatible with hydrogen peroxide, said method comprising the addition to said **ophthalmic** solution of (a) a source of hydrogen peroxide in sufficient amount to provide hydrogen peroxide in a trace amount from. . . a sufficient amount to stabilize the resultant hydrogen peroxide; said resulting peroxide preserved eye wetting solution, eye lubrication solution or **ophthalmic** drug formulation to be directly instilled in the eye of a mammal, and having an ocularly compatible pH of between. . .

10. The method of claim 5, and further comprising adding an effective amount of **1-hydroxyethylidene-1,1-diphosphonic acid** as a **hydrogen peroxide** stabilizer.

16. A method of treating the eye of a mammal in need of treatment with an **ophthalmic** drug which comprises directly instilling into the eye of a said mammal an effective amount of an **ophthalmic** drug formulation effectively preserved by trace amounts of stabilized hydrogen peroxide comprising (a) an effective amount of an **ophthalmic** active ingredient which is compatible with hydrogen peroxide; (b) a source of hydrogen peroxide for providing hydrogen peroxide in a. . . (c) one or more ocularly compatible hydrogen peroxide stabilizers in sufficient amount to stabilize the hydrogen peroxide; said peroxide preserved **ophthalmic** drug formulation to be instilled directly in the eye of a mammal, having an ocularly compatible pH of between about. . .

18. A method according to claim 16 wherein a said **hydrogen peroxide** source is selected from the group consisting of **hydrogen peroxide**, **sodium perborate**, **sodium peroxide** and urea peroxide, and a said **hydrogen peroxide** stabilizer is diethylene triamine penta(methylenephosphonic acid) or a **1-hydroxyethylidene-1,1-diphosphonic acid**, or a physiologically compatible salt thereof.

. . . said eyes in need of treatment an effective amount of an ocularly compatible eye wetting solution, eye lubrication solution or **ophthalmic** drug formulation which has been effectively preserved with a trace amount of stabilized hydrogen peroxide resulting from (a) a source. . .

26. A method according to claim 25 wherein a said **hydrogen peroxide** source is selected from the group consisting of **hydrogen peroxide**, **sodium perborate**

, **sodium peroxide** and urea peroxide, and a said **hydrogen peroxide** stabilizer is diethylene triamine penta(methylenephosphonic acid) or **1-hydroxyethylidene -1,1-diphosphonic acid**, or a physiologically compatible salt thereof.

L32 ANSWER 13 OF 14 USPATFULL
AN 96:106202 USPATFULL
TI Method of preserving **ophthalmic** solutions and compositions therefor
IN Martin, Stephen M., Roswell, GA, United States
Tsao, Fu-Pao, Lawrenceville, GA, United States
PA Ciba Geigy Corporation, Tarrytown, NY, United States (U.S. corporation)
PI US 5576028 19961119
AI US 1995-414150 19950329 (8)
RLI Continuation of Ser. No. US 1994-259204, filed on 13 Jun 1994, now abandoned which is a division of Ser. No. US 1993-99986, filed on 29 Jul 1993, now abandoned which is a continuation of Ser. No. US 1992-968224, filed on 29 Oct 1992, now abandoned which is a continuation of Ser. No. US 1991-733485, filed on 22 Jul 1991, now abandoned which is a continuation of Ser. No. US 1989-376083, filed on 6 Jul 1989, now abandoned which is a continuation-in-part of Ser. No. US 1988-229163, filed on 4 Aug 1988, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Fay, Zohreh
LREP Roberts, Edward McC., Meece, R. Scott, Lee, Michael U.
CLMN Number of Claims: 16
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 682
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
TI Method of preserving **ophthalmic** solutions and compositions therefor
AB A preservative for **ophthalmic** solutions having an active ingredient is provided, having a **hydrogen peroxide** content of about 0.001% to about 0.10% by weight; and diethylene triamine penta(methylene phosphonic acid) or a physiologically compatible salt thereof, present at about 0.002% to 0.03% by weight and/or 0.005% to about 0.20% by weight of **1-hydroxyethylidene-1,1-diphosphonic acid**, or physiologically acceptable salt thereof.
SUMM The present invention relates to a method of preserving **ophthalmic** solutions with trace amounts of stabilized peroxy compounds. More particularly, this invention relates to the use of stabilized trace amounts of hydrogen peroxide as preservative in buffered saline for **eye care** solutions.
SUMM . . . e.g. about 0.5 to 6% by weight in water, is known to be effective as a disinfectant for use with **contact lenses** in order to kill any contaminating microorganisms.
SUMM . . . bleaching of cellulosic materials. Exemplified are compositions having a pH of 12.0. However, such highly basic compositions are undesirable in **ophthalmically**-related solutions, including eyewashes and **contact lens** cleaning solutions.
SUMM Also, British Patent No. 1,500,707 discloses a **contact lens** sterilizing solution using hydrogen peroxide with 200-2000 ppm of a phosphate [pyrophosphate] stabilizer at a pH of 4.5.
SUMM . . . peroxide are effectively stabilized nor is there any indication that hydrogen peroxide might be used as a preservative for an **ophthalmic** solution.
SUMM Some of the **eye care** solutions commercially available today use benzalkonium chloride, rather than hydrogen peroxide, as a preservative. For example, **contact lens**

solutions typically contain 0.9% sodium chloride, buffers, surfactants, wetting agents, and 0.002 to 0.01% benzalkonium chloride. Benzalkonium chloride is also used in other products, including isotonic decongestant **ophthalmic** solutions, such as Visine.RTM. eyedrops manufactured by the Leeming Division of Pfizer, Inc.

SUMM . . . benzalkonium chloride, being cationic in character, reacts with proteins found in the ocular environment and causes unwanted deposits on soft **contact lenses**. Benzalkonium chloride and its analogs are also taken up by lens material and can have a deleterious effect on the. . . with cotton and nylon fibers. Furthermore, in Swan, K. C., "Reactivity of the Ocular Tissues to Wetting Agents", Am. J. **Ophthalmol**., 27, 118 (1944), it was noted that repeated use of benzalkonium chloride at concentrations of 1:5000 or stronger can denature. . .

SUMM . . . such as thimerosal, benzalkonium chloride and others are discussed in the following literature: M. Sibley, et al., "Understanding Sorbic Acid-Preserved **Contact Lens** Solutions", International **Contact Lens** Clinic, 11 (9), 531 (1984); M. Orron, et al., "Measurement of Preservative Binding with Soflens.RTM. (polymacon) **Contact Lens**", Aust. J. Optom., 59, 277 (1976); and M. Akers, "Considerations in selecting antimicrobial preservative agents for parenteral product development", Pharmaceutical. . .

SUMM An object of the invention is to provide a preservative for all manner of **ophthalmic** and **ophthalmically** related solutions having hydrogen peroxide compatible components which does not suffer from the aforementioned defects.

SUMM Another object of the invention is to provide preserved **ophthalmic** and **ophthalmically** related solution formulations which are free of the known art preservatives.

SUMM Yet another object of the invention is to provide a means of preserving **ophthalmic** and **ophthalmically** related solutions with hydrogen peroxide or hydrogen peroxide generating components.

SUMM . . . are overcome by stabilized trace peroxy compounds provided by the present invention which may be used as a preservative in **ophthalmic** solutions such as eye lubrication solutions, **ophthalmic** drug formulations and **contact lens** solutions.

SUMM . . . addition, the pH is also compatible with the ocular environment or upon the dilution indicated above is made so. For **ophthalmic** solutions (those which are to be instilled in the eye directly), the peroxy content and pH must per se be in the "ocular compatible range". **Ophthalmic** related solutions (those which are used in conjunction with **contact lenses**, other than "comfort or lubricating" drops which may be for instillation directly to the eye) may have appreciably higher peroxy. . .

SUMM . . . invention therefore relates to hydrogen peroxide or a source of hydrogen peroxide in trace amounts as a preservative for an **ophthalmic** solution, said hydrogen peroxide being especially effectively stabilized by addition of diethylene triamine penta(methylene phosphonic acid) or 1-hydroxyethylidene-1,1-diphosphonate, to the use of said stabilized trace amounts of hydrogen peroxide for preserving an **ophthalmic** solution, to **ophthalmic** solutions so preserved, to the manufacture of so preserved **ophthalmic** solutions and to a method of preserving any **ophthalmic** solution by adding thereto said stabilized trace amounts of stabilized hydrogen peroxide or a source of hydrogen peroxide.

SUMM For example, the trace amount of the hydrogen peroxide in these **ophthalmic** solutions ranges from about 0.001% (10 ppm) to about 0.10% (1000 ppm) by weight and is stabilized by about 0.002%. . .

DETD Trace amounts of peroxy compounds stabilized with a **hydrogen peroxide** stabilizer, especially diethylene triamine penta(methylene phosphonic acid) or **1**-

hydroxyethylidene-1,1-diphosphonic acid may be utilized as a preservative for drugs, eyewashes, or other solutions containing an active ingredient designed to be used. . . invention may be used in the ocular environment. The preservative according to the present invention may be used in any **ophthalmic** solution as long as the active ingredient in that solution is compatible with trace amounts of the peroxy compounds. Also, virtually any peroxy compound may be used so long as it is hydrolyzed in water to produce **hydrogen peroxide**. Examples of such sources of **hydrogen peroxide**, which provide an effective resultant amount of **hydrogen peroxide**, include **sodium perborate** decahydrate, **sodium peroxide** and urea peroxide. It has been found that peracetic acid, an organic peroxy compound, cannot be stabilized utilizing the present. . .

DETD The full scope of the present invention includes **ophthalmic** active agent containing solutions as well as solutions which are **ophthalmic** active agent free. The former group contains at least one medicinal agent for application directly to the eye. The latter group comprises such solutions as preserved saline, preserved **contact lens** cleaning solutions, preserved **contact lens** stabilizing solutions, preserved wetting solutions, and preserved lubricating solutions, among others.

DETD . . . mentioned to which the invention is applicable. However, when the solution is to come in contact with a hydrogel soft **contact lens**, stannate stabilizers are to be avoided as they tend to "cloud" the lens material.

DETD The pH of the stabilized solution presents another advantage over the prior art since the pH's of most existing **ophthalmic** solutions containing hydrogen peroxide are relatively low. The pH values of available hydrogen peroxide products for **contact lenses** are listed as follows:

DETD Another advantage in using hydrogen peroxide in **ophthalmic** solutions is that the trace amount of hydrogen peroxide, especially less than 100 ppm, is destroyed once it comes in. . .

DETD Dissolve 0.61 g of sodium chloride, 0.50 g boric acid, 0.005 g sodium borate decahydrate, and various amounts of **1-hydroxyethylidene-1,1-diphosphonic acid** in 80 ml of deionized water. Add 0.0238 g **sodium perborate**. Add water up to 100 ml and adjust the pH to 7 by the addition dropwise of diluted hydrochloric acid. . .

CLM What is claimed is:

1. A sterile, buffered, substantially isotonic **saline solution**, comprising: (a) a source of hydrogen peroxide resulting in 0.001 to 0.10 weight percent hydrogen peroxide; (b) a hydrogen peroxide. . .

12. A method of treating a **contact lens**, comprising: (a) contacting the lens with a composition effective in disinfecting or cleaning; and (b) rinsing the lens with a. . .

13. A method of storing a **contact lens** for an extended period in the absence of substantial microbial growth, comprising the steps of: (a) providing a **contact lens** substantially free of biological matter; (b) placing the lens in a container; and (c) placing an antimicrobial buffered **saline solution** in the container in an amount sufficient to immerse the lens, the antimicrobial buffered **saline solution** including: (1) a source of hydrogen peroxide in an amount sufficient to generate about 0.001 to 0.10 weight percent hydrogen. . .

L32 ANSWER 14 OF 14 USPATFULL

AN 94:82376 USPATFULL

TI Solutions of peracids

IN Brougham, Paul, Rainhill, England
Sanderson, William R., Penketh, England

Pearce, Timothy, High Legh, England
PA Solvay Interox Limited, Warrington, England (non-U.S. corporation)
PI US 5349083 19940920
WO 9113058 19910905
AI US 1992-920480 19920824 (7)
WO 1991-GB241 19910218
19920824 PCT 371 date
19920824 PCT 102(e) date
PRAI GB 1990-4080 19900223
DT Utility
FS Granted
EXNAM Primary Examiner: Dees, Jose G.; Assistant Examiner: Conrad, Joseph M.
LREP Larson and Taylor
CLMN Number of Claims: 16
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 381
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM U.S. Pat. No. 4,743,447 describes the production of solutions having a hydrogen peroxide base for disinfecting **contact lenses**, the solution having from 0.005% to 0.1% by weight of peracetic acid, 1% to 8% by weight of hydrogen peroxide. . .
DETD . . . l of a 10% solution of dipicolinic acid in aqueous NaOH and 0.0925 kg of a commercial phosphonate stabiliser product (**1-hydroxyethylidene-1,1-diphosphonic acid** available under the Trade Name **Dequest 2010**). Dequest is a Trade Name. This corresponds to a **hydrogen peroxide** concentration in the total mixture of about 28%, of acetic acid of about 27% and a content of water in the mixture, including that introduced with the **hydrogen peroxide**, of about 45% by weight.